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S. H. INGERSOLL

42 CEDAR ST. N.Y.



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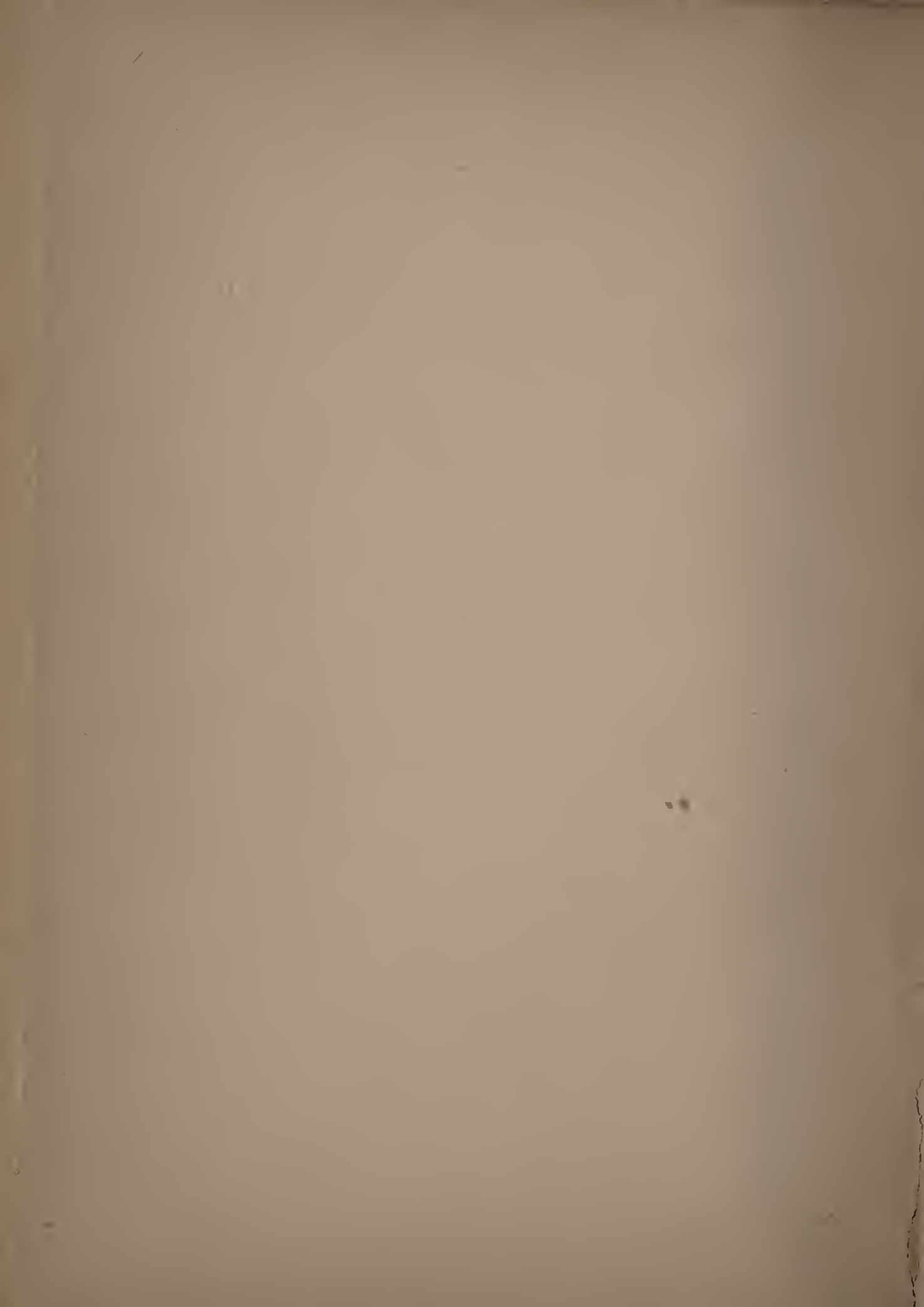
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SPARKS  
FROM  
THE ANVIL OF KNOWLEDGE:

A CAREFUL COMPILATION FROM THE BEST AUTHORITIES

OF  
MANY IMPORTANT FACTS

RELATING TO

CHRONOLOGY, HISTORY, LANGUAGE, LITERATURE, MYTHOLOGY, ASTRONOMY, GEOGRAPHY, GEOLOGY, CHEMISTRY, PHILOSOPHY, ELECTRICITY, ZOOLOGY, BOTANY, POTTERY, ARCHITECTURE, SCULPTURE, MUSIC, PAINTING, MISCELLANY.

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## COMPILER'S NOTE.

This book is offered to the public with full faith that it fills a want long felt by many.

We have availed ourselves of the contents of the best encyclopædias, and of many other works; and while we offer in a very condensed form, with no attempt at style, much that has been uttered in many ways by other compilers, it will be found that we furnish a great amount of knowledge, in good type, in a very small space.

The aim and hope of the compiler may be summed up in a few words. All persons who read this little book will get pleasure out of its contents, and that is much. Many will perhaps get the elements of culture, and that is more. And some may get at once pleasure, culture, and a little preparation for severer studies, and so receive a benefit, though doubtless of a humble kind.



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## SPARKS FROM THE ANVIL OF KNOWLEDGE.

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### CHRONOLOGY.

**CHRONOLOGY** is the science of the measurement of time. A long period of time which is measured by events in it, being reckoned from a certain epoch or remarkable period of time, is called an Era.

The letters B.C. indicate the time "before Christ;" A.D. refers to the time after the birth of Christ, or in the year of the Lord.

The Greeks reckoned from 776 B.C. The Mohammedans, from the flight of Mohammed, 622 A.D. The Egyptians, Hindus, Chinese, Assyrians, Babylonians, and Persians all had their systems of chronology. All Christendom reckons its time from the birth of Christ.

The Hebrew system has always been regarded by those who hold the Hebrew Scriptures to be inspired as the most important, because by it the age of the world and of mankind is supposed to be fixed. According to this system, from the creation to the deluge was 1656 years; from the deluge to the birth of Christ 2348 years.

In modern times the science of Geology has shown this system to be too short for the age of the world and of man, and authentic records of the Egyptians and Assyrians have shown the time allowed from the deluge to be too short.

Various plans have been adopted for allowing more time, without imperilling the infallibility of Scripture. The latest chronologers on this principle fix the Deluge at B.C. 3099 or 3159, and the creation of Adam about B.C. 5361 or 5421.

The Jewish year consisted of twelve lunar months, with a thirteenth introduced at intervals.

In most of the Greek States the year was composed of the twelve months, at a rough average of thirty days each; but as early as 594 B.C. it was known that the lunar months contained only twenty-nine and a half days.

The Roman year originally had ten months of 304 days, which Numa increased by the addition of two months (January and February), making a year of 355 days. This year was corrected by the addition of a short intercalary month, and remained in

force until 46 B.C., known as the year of confusion, when the accumulated error was corrected by the addition of sixty-seven days, fixing the year at  $365\frac{1}{4}$  days, consisting of twelve months, with the names and number of days they still retain.

The Julian year being in excess of the true solar year eleven minutes and twelve seconds, Pope Gregory XIII., assisted by a number of learned men, in 1582 A.D. again readjusted the calendar. They struck out ten days, reckoning the 5th of October as the 15th.

The Gregorian, or *New Style*, was adopted in England in 1752, and in Sweden in 1753. Russia, and those countries where the Greek Church prevails, still hold to the *Old Style*. The difference between the old and new style is 11 days, and the rectification errs by only one day in 3600 years.

Easter was properly and originally a heathen festival, which was appropriated by the Church and applied to the resurrection. It is always the first Sunday after the first full moon, on or after the 21st of March.

Leap year is known by dividing the years by 4.

The Civil year begins and ends at 12 o'clock midnight of the 31st of December.

The Athenians began the year in June; the Romans first in March, then in January.

The 1st of January was legally adopted by France 1563, by Scotland 1600, by England and Ireland 1752.

A century begins with 1 and ends with 100. The Eighteenth Century began with 1701 and ended 1800.

The term month originally signified the time occupied by the moon in revolving around the earth.

The Calendar months, 12 in number, received their names from the Romans, and were arranged by Julius Cæsar almost as they now appear. January is called from Janus, the Roman god of the year. February is from the Latin, Februo, I purify. March is from Mars, the god of war. April is from Aperio, the Latin word, to open. May is from Maia, the mother of Mercury. June is from Juno. July is from Julius Cæsar. August from Augustus Cæsar. September is from Septem, Latin for seventh. October, November, December, respectively signify the 8th, 9th, and 10th months of the Roman year.

The week is an ancient division of time, not only among the Hebrews but among the Egyptians, Chinese and Hindus.

Sunday was named by the Scandinavians and Saxons, from the sun. Monday, from the moon. Tuesday, from Tuesco, the god of war. Wednesday, from Woden, a deity. Thursday, from Thor, the Saxon god of thunder. Friday, from Friga, the wife of Woden, and Saturday, from Saturn. Sabbath is from a Hebrew word signifying rest. The Hebrews began their Sabbath on the

sunset of the sixth day, Friday, and ended it on the sunset of the seventh day, Saturday.

The sun dial is an instrument of great antiquity for measuring time; but since the introduction of clocks it has become an astronomical toy. The next decided advance in the measurement of time was an instrument that measured the hours by the afflux of water from a graduated vessel. It was introduced into Rome by Scipio Nusica about 158 B.C.

With the invention of the first escapement, clocks proper may be said to begin. In 1288 A.D. a clock was set up in the Old Palace Yard, London. Henry Von Wick set up in Paris 1379 A.D. one of the most famous of these earlier clocks. In 1641 Harris, an Englishman, perceived the possibility of regulating the action of the escapement by a pendulum. It was Huyghens, however, the Dutch physicist, who first constructed a pendulum clock.

### HISTORY.

“History has always been considered as the light of ages, the depository of events, the faithful evidence of truth, the source of prudence and good council, and the rule of conduct and manners.”

The Babylonians recorded their first observations on bricks, and the most ancient monuments of Chinese literature were inscribed upon tables of stone.

Such was the rude commencement of annals and historical records.

The Egyptians may be said to have possessed an historical literature from the time of the invention and use of papyrus as a writing material.

The study of History as a department of intellectual culture, however, was reserved to the Greeks. It was about the Fifth Century B.C. that Herodotus composed the first work fully answering to our present idea of history.

During the Middle Ages history was entirely eclipsed except among the Saracens.

What we now recognize as history is divided into Sacred and Profane.

Sacred History is what is contained in the Old and New Testaments.

Profane history is divided into Ancient, Mediæval, and Modern.

The pre-historic period precedes recorded history. Geology discloses evidences of a pre-historic period.

Ancient history ends 476 A.D. Mediæval history begins then and ends about 1450 A.D.

Scripture history is reckoned about 4004 B.C.

Authentic profane or civil history reaches only to about 1000 years B.C., and the *whole chronology of ancient times is allowed to be very uncertain.*



## ANCIENT HISTORY.

Ancient History began in Asia and in the northern part of Africa.

Civilization and a knowledge of the Arts prevailed at least 3000 years ago,—among the Hebrews, Assyrians, Chaldeans, Babylonians, Egyptians, Phœnicians, Medes, Persians and Lydians.

The early history of Assyria, like that of Babylonia, is involved in obscurity. Nineveh, the capital of Assyria, is said to have been founded by Nimrod; Asshur, one of the sons of Shem, has also been named as its founder.

Babylonia, of which Babylon was the capital, was an ancient country of Asia which the Scriptures call “the land of Shinar” and “the land of the Chaldees.”

About 1270 B.C. the Assyrian Kings became masters of Chaldea, or Babylonia, and the period of their greatest glory was about 1000 B.C.

The Chaldeans, in ancient history, were a learned and priestly class of men. They worshipped the powers of nature, principally the sun.

Alexander the Great made his triumphal entrance into Babylon 331 B. C.

The Phœnicians, inhabitants of Phœnicia, a country on the shores of the Mediterranean Sea, were noted for their mercantile pursuits. They had several seaports, including Tyre and Sidon, and are said to have frequently visited the British islands.

Tarshish, of Scripture, was believed to have been a district and city of the south of Spain, and formed the limit of the western world as known to the Hebrews.

## ANCIENT EGYPT.

In the words of Bunsen, Egypt is the monumental land of the earth, as the Egyptians are the monumental people of history. According to the Hebrews, the Egyptians were the descendants of Ham.

Menes, the founder of the first of thirty dynasties, is the first recorded ruler over Egypt, and is said to have founded the ancient city of Memphis.

CHEOPS, it is supposed, was built by a king of the fourth dynasty, and is one of the oldest monuments that are extant.

The Hebrew writers gave the name of Pharaoh as a general title to the long line of sovereigns in Egypt.

The Pyramids were believed to have been erected as monumental tombs to the Pharaohs. They are of immense size and of great antiquity.

Thebes and Memphis were the chief cities of ancient Egypt



and among the oldest. The temples and palaces of the former are at this day the most magnificent ruins on the face of the globe.

Egypt was the central point of civilization of the world long before the foundation of Carthage and Rome.

The ancient Egyptians believed in the immortality of the soul, but they worshipped beasts and reptiles and had a great regard for animals, especially a particular kind of beetle, which (the latter) they copied as gems and wore them about their persons.

The scholars of Egypt were well versed in geometry, architecture, mechanics, hydraulics, and had some knowledge of what is now called chemistry. They were, according to Herodotus and Cicero, the most learned of all nations in relation to their native annals.

Egypt was conquered 525 B.C. by Cambyses, King of Persia, but regained her independence in the twenty-eighth dynasty. The country was again conquered by Darius, 350 B.C., and Nectanebus, the last king of the thirty dynasties, ceased to reign.

The succession of Egyptian monarchs, embracing a period of 3553 years, is unexampled in history.

The Greeks attribute to the Egyptians the invention of the lyre and lute.

At the death of Alexander, the acquired Egyptian provinces were divided among his generals, and formed independent nations until subdued by the Romans.

The Ptolomies were Greek Kings of Egypt, commencing with the death of Alexander.

### GRECIAN HISTORY.

Early accounts of Greece consist chiefly of mythological legends and fables *narrated by the poets*. The Greeks spoke of Zeus as the sovereign of the universe, but they were practically worshippers of many gods and offered sacrifices in temples.

According to the Greek myth, Deucalion was a person who saved himself and his wife in an ark which he built when all Greece was submerged nine days by Zeus. The world was said to have been repopled by Deucalion and his wife Pyrrha.

The Greeks had a fanciful notion that the history of the world was divided into the Golden, Bronze, and Iron and Stone Ages.

*The credible* history of Greece begins 776 B.C. It teaches us that Greece was divided in petty States, ruled by an aristocracy or democracy, among whom there were frequent wars. The two most prominent States were Athens and Sparta. The Athenian Government was at first a kind of aristocracy, but falling into disorder, Draco attempted reform. The laws of Draco, one of the Archons, or rulers, were so severe that the lightest as well as the gravest offences were punished with death.

Solon, a learned and sagacious Athenian, was invited to remedy the abuses of government that Draco failed to cure; but his rule was finally set aside by the usurpation of the supreme power by Peisistratus. The latter's rule was mild and beneficent, and he was noted as the most humane and accomplished of all the Greek tyrants. The Tyrants, as they were called, were not always necessarily cruel, but oftentimes the contrary.

Greece enjoyed the greatest prosperity from about 500 to 146 B.C., during which time the country attained to a high position in architecture, sculpture, and the arts, although constant wars prevailed, and even subjugation.

Greece furnished many great generals, among whom were Miltiades, who was victorious over the Persians at the battle of Marathon, 490 B.C.; Leonidas, who defended the pass of Thermopylæ against a host of Persians; and Themistocles, a naval commander, who relieved her from her invaders.

*Pausanius* was a Greek general who, having favored the Persians, took refuge in a temple of Minerva, where his indignant mother brought the first stone to build up the entrance, and by which act he was starved to death.

Pericles, a successor of Themistocles, gained great ascendancy over the Athenians as a civic ruler and military commander. He directed to be built the Parthenon, a temple of Minerva at Athens, and other celebrated buildings.

The Thebans, or Boetians, inhabitants of a part of Greece, were reputed dull and stupid, but they provided some of the most illustrious of Greek warriors and writers.

The Peloponnesian war arose from a rivalry between Athens and Sparta for the leadership of the Grecian States. It lasted twenty years and greatly devastated Greece, and led to its subjugation by Philip, King of Macedon, 338 B.C. Philip conferred a new lustre on Greece by his vigorous policy, and the conquests of his son Alexander carried the fame of Greece to the banks of the Ganges.

After the death of Alexander, Greece remained a dependency of Macedon, and endeavored to regain her independence, and failed. After being subject to Macedon 190 years, Greece passed into the power of the Romans 148 B.C.

## ROMAN HISTORY.

THE CITY OF ROME sprung into existence in Latium, a part of Italy which was occupied by a number of separate peoples of the same Asiatic origin as the Greeks.

The kingly power of Rome began with Romulus about 753 B.C., and terminated with Tarquin 509 B.C., when a republic was established. The stern character of the Romans at this latter time is shown by the act of the Roman Consul, Brutus, in con-

demning his own son to death for conspiring to restore the monarchy.

The inhabitants consisted of four classes: Patricians, Clients, Plebeians, and slaves; the latter were bought and sold.

The strangers were called Clients, because, possessing no civic privileges, they had to put themselves under the protection of some powerful citizens called Patrons. *Client* signifies *listener*.

CONSULS were two chief magistrates, appointed annually, who divided the power with Pontiffs. The latter were a college of priests who had charge of the religious ceremonials. The Pontiffs were the first builders of bridges over the Tiber; hence their name Pons, a bridge, and facio, to make.

The Romans worshipped many gods and goddesses and consulted oracles. They adopted much of the Greek mythology and added to it many fables.

The GAULS, inhabitants of a country now known as France, invaded Rome, sacked and burnt it 390 B.C., but the Romans ultimately expelled the invaders and subdued other petty nations in Italy.

The Government of the Republic was attended with constant dissensions and a great degree of corruption. The source of discontent was removed by an equalization of the privileges of the aristocracy and democracy.

*The privilege of being a Roman citizen* was highly prized; it conferred the right to appeal to the tribunals at Rome for redress. The apostle Paul was an example of such appeal.

During the PUNIC wars (246–146 B.C.)—wars between the Romans and Carthaginians—Rome became a maritime power.

CARTHAGE was in Africa on the shores of the Mediterranean Sea. It was destroyed by a Roman army, under Scipio Æmilianus, 146 B.C., when the city, which contained 700,000 inhabitants, was razed to the ground.

The Romans subjected Macedon and Greece 148 B.C. They afterwards subdued the Grecian power in Egypt and Asia.

POMPEY, a great Roman general and consul, effected conquests in Asia, took Jerusalem, and imposed a heavy tribute on the Jews.

JULIUS CÆSAR, the greatest general the Roman Republic had produced, and one of the greatest the world ever knew, conquered Gaul and invaded Britain. Cæsar was assassinated at Rome, March 15th, 44 B.C. It is now the opinion that he only seized upon supreme power to save the State from the dissolution likely to ensue from the most corrupt political system that then existed.

THE ROMAN REPUBLIC lasted from 509 B.C. to 30 B.C. The assassination of Cæsar did not bring back the republic, but led to a long line of successive rulers.



BRITAIN was added to the Roman dominion about 70 A.D.

The Romans achieved their extraordinary conquests by their military skill, discipline, inordinate ambition, and spirit of patriotism.

The population of Rome in the First Century of our era was about two millions.

THE ROMAN EMPIRE began to decline about 217 A.D., and the division of the empire was about 284 A.D. Rome became the capital of the western division and Constantinople of the eastern portion.

FOUR GREAT EMPIRES, Assyrian, Persian, Græco-Macedonian, and Roman perished on the dissolution of the Roman power.

ROMULUS AUGUSTULUS was the last emperor of the west and was deposed 476 A.D. With this deposition, the empire ended, having lasted 1229 years.

### GENERAL HISTORY OF MODERN EUROPE.

The history of MODERN EUROPE commences with the fall of the Roman Empire in the west, and continues to the present time. It embraces nine remarkable periods, the epochs of which are:

1. THE FALL of the Western Empire, 476 A.D. to 800 A.D.
2. THE RE-ESTABLISHMENT of that empire by Charlemagne 800 to 962.
3. THE TRANSLATION of the empire to Germany by Otho the Great 962 to 1074.
4. THE ACCESSION of Henry IV. to the Imperial Crown and the Crusades 1074 to 1273.
5. THE ELEVATION of Rudolf of Hapsburg to the Imperial Throne 1273 to 1453.
6. THE FALL of the Empire of the East 1453 to 1648.
7. THE PEACE of Westphalia 1648 to 1713.
8. THE PEACE of Utrecht 1713 to 1789.
9. THE FRENCH Revolution to the present time 1789 to 1886.

### MEDIÆVAL HISTORY.

MEDIÆVAL HISTORY is the history between the fall of the Roman Empire 476, and the revival of learning about 1450; hence this interval of nearly a thousand years is usually styled the "Middle Ages."

THE DARK AGES were the early portions of the middle ages, when learning was nearly extinct.

THE BYZANTINE OR EASTERN EMPIRE continued under various changes of dynasty till 1453. This empire was of a Greek and Asiatic character, and the Greek language was spoken.



THE FRANKS were tribes of North Germany who, during the Fifth Century, invaded Gaul and founded what afterwards became known as France. Clovis was the first King of the Franks in Gaul.

THE LATIN CHURCH at that time was that branch presided over by the Bishop of Rome, which, in its services, employed the Latin language.

The Bishop of Rome was usually styled the Pope, signifying Papa or Father.

THE FIRST DIVISION of the Church was the separation of the Latin and Greek Churches. It took place in the Twelfth Century. The final rupture took place 1453 A.D.

In the Seventh Century the great event of the origin and spread of Mohammedanism occurred. Mohammed was an Arabian, born at Mecca 570 A.D. He devised a religion of a belief in one God, whose prophet he declared himself.

THE MOHAMMEDANS, under the name of Saracens, established themselves in Spain 711 A.D.

CHARLES MARTEL, a ruler of the Franks, or French, defeated the Saracens in 732 A.D., and arrested forever the progress of Mohammedanism in Western Europe.

Modern Europe is indebted to the Arabians for the common numerals, or figures; also our knowledge of algebra.

During the middle ages the Church comprehended almost the whole learning of the period.

THE TURKS were Tartar people professing Mohammedanism, and who seized Palestine.

THE CRUSADES were expeditions undertaken by several Christian powers to rescue Palestine from the Turks. There were seven Crusades altogether, extending from 1096 till about 1290 A.D.

The general manners and habits of thought in the latter part of the middle ages were rude, and there was little safety for life and property. Scarcely any but priests could read or write. Serfdom prevailed; also a universal belief in fairies, witchcraft, etc. Famines and plagues were of frequent occurrence.

SCANDINAVIA was a northern region which now comprehends Denmark, Sweden and Norway.

The Scandinavians about the year 1000 embraced Christianity; previous to that they worshipped a number of fabulous gods. THE NORMANS was the name ordinarily given to the Scandinavians. In 912 Charles the Simple was compelled to cede to them a portion of his kingdom, which was afterwards called Normandy.

THE CARLOVINGIAN dynasty was a race of Kings in France, commencing with Pepin, a son of Charles Martel, and lasted from 752 till 986 A.D.

CHARLEMAGNE was one of the sons of Pepin, who inherited the

whole of his dominions, which he vastly extended by conquests in Germany, Italy, and other countries. He died 814 A.D.

LOUIS LE DEBONAIRE, son of Charlemagne, succeeded him. He divided the vast kingdom among his three sons, Lothaire, Louis, and Charles. The last, styled Charles the Bald, received the kingdom of the Franks, which was now for the first time called France.

THE CAPETIAN dynasty was the third of Frankish Kings, and began in 987 with Hugh Capet, Count of Paris, one of the great barons of the time.

Venice, Genoa, Florence, Frankfort, Cologne, Nürnberg, Liege, Hamburg, and Lubeck were old and important free cities in continental Europe.

THE SLAVONIANS were the progenitors of the Russians, Poles, and Bohemians in the east and north of Europe. They differed in language from the nations of the German type.

China in the middle ages was inhabited by an ingenious race of people skilled in arts, and who traced their history to a remote antiquity.

CHINA was fully subdued by the MONGOLS, who established a Mongol dynasty from 1279 to 1368, when they were expelled by the Chinese, and the MING NATIVE dynasty succeeded. In 1644 the East Tartars conquered the country and have ever since governed it.

INDIA in the middle ages was divided into many petty States, occupied by an ancient people known as Hindus, worshippers of Brahma, who was regarded as *the creator of the universe*, with whom is associated Vishnu, *the preserver*, and Siva, *the destroyer*.

## RUSSIAN HISTORY.

In the earlier centuries of the Christian era, the SLAVS drove the scattered Finnish tribes to the far North, and became the founders of the RUSSIAN EMPIRE. But for centuries the country was divided into practically independent provinces.

From 1380 to 1470 tribute was paid to the Tartars, but IVAN *the Great* broke their power, and his son and successor, IVAN *the Terrible*, contributed much to the greatness of Russia.

The history of Russia assumes a regular character during the reign of Ivan I., from 1462 to 1505, when the country was freed from the Tartars and the civilized usages of modern Europe were introduced. Under Peter the First, surnamed Great, Russia really emerged from barbarism.

Peter was noted for his distinguished abilities, and for the vast improvements effected during his reign. His was the most remarkable reign in Russian annals.

The history of Russia is disfigured by assassinations and other violent measures to open the way to the throne.

The reigns of Catherine I. (1725-27) and Peter II. (1727-1730) were alike uneventful.

Anna's (Peter's niece) reign is remarkable as the period when German influence became almost exclusive. Biron, to whom Anna intrusted the whole administration of the government, brought on a revolution by his tyranny, which raised Elizabeth, Peter's unmarried niece, to the throne in 1741.

Peter III. reigned during the year 1762. He was assassinated by a court conspiracy, but the truth of this was doubted by the serfs, who hailed the rising of the Cossack pretender Pugatchif.

The revolt of the Cossacks was quelled 1775, after assuming large proportions. Meanwhile Peter III. was succeeded by his consort, Catherine II., the friend of Voltaire.

The most brilliant of her victories, the conquest of the Crimea, 1783, revived the dream of a resuscitated Byzantine Empire.

Her violent and eccentric son, Paul I., succeeded her. He allied himself with Austria and Britain against France, and was on the eve of war with Britain, when he was assassinated, 1801, making way for Alexander I., brother of Nicholas and uncle to the present emperor, in all of whose reigns Russia has made very important advances.

Nicholas I. succeeded Alexander I., and was followed by Alexander II., who removed the restrictions on the universities and the press, promoted the construction of railways, roads, and river steamers, and on March 3, 1861, freed 23,000,000 serfs.

Alexander II. was assassinated March 3, 1881.

Nihilist conspiracies, assassinations and outrages against the Jews, the continued isolation of the Czar Alexander III. and his family have been the leading incidents in the recent history of Russia.

### SWEDISH HISTORY.

The earliest inhabitants of Sweden, as of all Scandinavia, appear to have been Finnish peoples, who, in prehistoric times, were driven northwards by Teutonic races.

The country was freed from the Danes by Gustavus Vasa, (Gustavus I.), and attained to national importance in 1525.

There were three other kings named Gustavus: Gustavus II., III., IV., the most noted of whom was Gustavus II., generally known as Gustavus Adolphus (the "Lion of the North"), who was killed at the battle of Lutzen, 1632.

Charles XII., King of Sweden, was born 1682, and succeeded his father, Charles XI. in 1697, at which time Sweden was the most powerful nation in Northern Europe. He was a great military genius and some thought him insane. His great opponent was Peter the Great, of Russia.

Peter decisively defeated Charles at Pultova, 1709,

Charles XII., was killed at the siege of Friedrichshall, November



30, 1718, and by his death, Sweden, exhausted by wars, ceased to be numbered among the great powers of Europe.

The crown, at the death of Charles, fell to his sister Ulrika, who resigned it to her husband, Prince Friedrich, in 1720. The reign of the latter was a long period of humiliation.

Adolf Frederic, of Holstein Gottorp, was followed in 1771 by his son Gustavus III., who destroyed the factions of the nobles and recovered much of the power of the crown. He was assassinated 1792, and was followed by his son Gustaf IV., who, in turn, was succeeded by his uncle Karl XIII.

The war with Russia closed 1809.

In 1810, on the election of a crown prince, the choice of the estates fell on Bernadotte, who mounted the throne as Karl XIV.

In 1814 the crown of Norway was united with that of Sweden.

Karl XIV. died in 1844 and was succeeded by his son Oscar I., followed by his son Oscar II. (1859), who, on his death in 1872, left the crown to his brother Oscar III., the present king.

The long peace that Sweden has now enjoyed has greatly developed her trade and increased her prosperity.

### GERMAN HISTORY.

Prior to the nominal conquest by Cæsar and other Roman Generals, GERMANY was inhabited by semi-barbaric tribes, engaged in agriculture and the chase, and dwelling in villages and small towns.

The Germani in those times were warlike and independent, and successfully opposed the Romans in their efforts to subdue the country.

Under Clovis, 481 A.D., the great Frankish Empire was formed.

Charlemagne's empire, 771-814, was of vast extent, reaching from the Baltic to the Adriatic, and from the Danube to the Atlantic. At the death of this great Emperor the empire was divided, and for many centuries the country was cut up into petty duchies and principalities.

The Elector of Brandenburg attained prominence in the beginning of the Eighteenth Century.

The title of Emperor was vested in various families. In 1273 Count Rudolph, of Hapsburg, who was the founder of the House of Austria, attained kingly power.

Under Charles V., Germany became the ruling nation of Europe.

During the Middle Ages, and up to 1814, her territory was the battle ground of Europe, and her boundaries subject to constant changes. It was overrun by Napoleon, and in 1806 the Rhenish Confederation was formed; the Emperor Francis resigned the German Crown and the Empire was formally dissolved.



After the downfall of Bonaparte, a confederation of the States was formed, and for fifty years the confederation was swayed by Austria and Prussia. Gradually the power of Austria waned, and that of Prussia increased.

After the first great success of the United German armies against the French, 1870-71, the imperial crown was placed on the head of King William of Prussia, and Germany became a united nation.

### AUSTRIAN HISTORY.

The greatness of AUSTRIA began with its Hapsburg dynasty, which dynasty exists to this day.

The Hapsburgs date from the end of the Thirteenth Century, and were a family of note which had long occupied the Castle of Hapsburg, near Brugg, on the left bank of the Aar, Switzerland.

One of the princes of this ancient house, Rudolph, who was elected Emperor of Germany, acquired the Duchy of Austria and other possessions, to which his son Albert I. succeeded, 1291.

Matthias Corvinus was King of Hungary at the middle of the Fifteenth Century, and was eminent for his valor, love of justice, learning, and the various improvements he effected in the country. In 1467 he founded the University of Presburg.

Ferdinand I. of Austria was brother of the Emperor Charles V., and ultimately inherited from him his German possessions. Ferdinand I. married the daughter of Louis II., King of Hungary and Bohemia, on whose death, 1526, he claimed these possessions, to which, after some national troubles, he succeeded.

The connection of Austria with Hungary and Bohemia dates from 1526.

Spain became an Austrian possession (1496) by the marriage of Philip, son of Maximillian.

Philip's son was Carlos I. of Spain, who became German Emperor, under the title of Karl V., on the death of Maximillian in 1519. Ferdinand I., also son of Philip, succeeded his brother Charles in 1556. On the death of Ferdinand, in 1564, the Austrian possessions were divided between his three sons, and not again united until 1619, under Ferdinand II. Then followed the 30 years' war caused by the attempt of Bohemia to place the Elector Palatine, Frederick V., on the throne. This was followed by the Spanish war of succession, 1701-1713, arising out of a struggle between Leopold II. and Louis XIV. of France for the Spanish crown.

By the peace of Utrecht, 1713, concluded during the reign of Karl VI., the Netherlands, Mantua, Milan, Naples and Sicily were secured to Austria. The latter two were surrendered to Don Carlos of Spain 1737.

On the death of Karl VI. the male line of the Hapsburgs died out, and the heirship was claimed by Maria Theresa.

The *seven years' war* followed.

Political changes begun by the Empress were extended after her death by her son Joseph II.

Joseph II. died 1790, and was succeeded by his brother, Leopold II., Emperor of Germany.

In 1792 Leopold was succeeded by his son Franz II. In 1804 Franz proclaimed himself hereditary Emperor of Austria, with the title of Franz I.

In 1832 Franz I. died, and left to his son Ferdinand I. the task of carrying on an oppressive system of government.

Ferdinand I. abdicated (Dec. 2, 1848) in favor of his nephew Franz Joseph.

In 1866, in the war between Austria and Prussia, Austria ceded Venetia to Italy. Since the close of this war Austria has, under the reign of the present Emperor, Francis Joseph, enjoyed prosperity and peace.

### SPANISH HISTORY.

THE PENINSULA of SPAIN was inhabited by Celts and Iberian tribes when the Phœnicians reached it and founded colonies along its coasts.

The Phœnicians were followed by the Greeks, and then by the Carthaginians. The latter made the country the principal support of their empire and the basis of their wars with the Romans.

The Romans succeeded in driving their adversaries out of the country in the second century before Christ. At the beginning of our era the Peninsula was a flourishing Roman province. A number of Roman emperors and authors were born there.

Christianity was early introduced.

The Northern races which overthrew the Roman Empire invaded also the Peninsula. First the Vandals and Sueves conquered the country at the beginning of the Fifth century; then towards the end of this century the Visigoths expelled both the Romans and the German tribes, and became masters of the whole country. The Visigoths were Arians.

In 711 A.D. the Arabs invaded the Peninsula from Africa, defeated the Visigoths, and conquered the country in three years, with the exception of the northern mountain regions. The Arabs made Spain a province of Bagdad. They crossed the Pyrenees to conquer France, but were defeated by Charles Martel in 732.

The war between Spanish Christians and the Arab Mohammedans lasted for 800 years. The Arabs founded a flourishing empire which became the starting point for all Europe of the arts and sciences.

In 1085 the Spaniards reconquered their old capital, Toledo. The Cid was the hero of that century.

At the beginning of the Twelfth Century, the Christians occupied one half of the country, divided into four kingdoms. A union of the kingdoms (finally merged into two) took place 1469, when Ferdinand V. and Isabella—the rulers of the two kingdoms—became joint sovereigns.

In 1492 the Arabs lost their last possession, Granada. It was during this year that Christopher Columbus, under the auspices of Isabella, discovered the West India Islands.

Joanna succeeded her mother Isabella in 1504.

Charles, grandson of Ferdinand, assumed the reins of government in 1517. He united the Netherlands to Spain, and in 1519 was elected Emperor of Germany. During his long reign Spain reached the culmination of her prosperity.

Charles relinquished the government to his son Philip II. in 1556, and went into religious retirement.

Philip lost the Netherlands in 1581, and died 1599. He was succeeded by Philip III. Under this latter weak king the decline of Spain was rapid.

In 1609 more than 1,000,000 Moors were expelled from Spain. By this act Spain lost a vast amount of skilled labor and manufacturing knowledge.

Philip IV. ascended the throne in 1626.

Charles II., son of the preceding, and last king of Spain of the line of Hapsburg, reigned from 1668 to 1700, during which reign the population *decreased* from 11,000,000 to 8,000,000.

The Bourbons succeeded to the throne in the person of Philip V., of Anjou. During this reign French influence prevailed.

Ferdinand VI., son of the preceding, became king at the death of Charles, 1746; succeeded by his brother Charles III., 1759.

In 1767 the Jesuits were expelled.

Charles IV., son of Charles III., became king 1788.

On June 5th, 1808, Napoleon appointed his brother Joseph, king. The latter fled from Madrid August 11th, 1812.

In 1813 the French were expelled from Spain, and Ferdinand VII. was invited to the throne.

Feb. 22, 1819, the Floridas were sold to the United States for \$5,000,000.

September 29, 1833, Maria Christina, wife of Ferdinand VII., grasped the reins of government in the name of her daughter Queen Isabella. Don Carlos, brother of Ferdinand, protested, and laid claims to the throne in accordance with the "Salic law." The Salic law excluded from the throne female descendants.

In October, 1840, the Queen Regent abdicated, and Espartero was elected Regent 1841. Spain was now and for a long time beset with civil wars; first one leader and then another was placed at



the head of the government, and general confusion prevailed. On September 30, 1868, Isabella was expelled from Spain and went to France.

In 1869 Serrano was elected Regent, and on November 16th, 1870, Prince Amadeus of Savoy was elected king by the Cortes. He abdicated, February 11th, 1873. Carlist insurrections followed, and on December 29th, 1874, Prince Alfonso, son of Isabella, was proclaimed king.

Alfonso died 1885, and Christine, his second wife, succeeded him as Queen Regent.

### FRENCH HISTORY.

THE EARLIEST HISTORIC INHABITANTS of France were Celts, known as Gauls, who held all modern France, except the southwestern part, which belonged to the Aquitanians, or Basques, a people akin to the Iberians.

The Gauls were blue-eyed and yellow-haired, brave and intelligent, mobile and keen-witted, full of unstable heroism and delighting in brilliant colors and barbaric display.

Before Cæsar's invasion the strength of the Gauls had been sapped by the pleasures and splendors of Rome.

In campaign after campaign Cæsar routed the Gauls, and the capture of Alesia laid the whole country at his feet (B.C. 51). From this time to A.D. 476 Gaul was a province of the Roman State.

Before the Third Century, Gaul was studded with fair cities, centres of commerce and luxury.

CHRISTIANITY was introduced in its Greek form in 160 A.D., by Pothinus.

In the first half of the Fifth Century the barbarians who were breaking up the Roman Empire poured into Gaul, and the Franks established a fluctuating power along the lower Rhine.

MODERN FRANCE dates from the rise of the Parisian monarchy of the Capets. The following appears to be the different dynasties:

The Merovingian dynasty began A.D. 420, with PHARAMOND, the first king of the Franks, and ended with the rule of Charles Martel, under the title of Duke, with whom the Carolingian dynasty ended at the death of Louis V., A.D. 987, when Hugh Capet usurped the throne, and when commenced the first branch of the Capetian dynasty, or third race.

The second branch of this dynasty began A.D. 1328, with the house of Valois.

In A.D. 1495 began the house of Valois-Orleans.

In 1515 power was centered in the house of Valois-Angouleme. The third branch, the house of Bourbon, succeeded that power,



A.D. 1589, and continued until the French Revolution, 1789, when commenced the LIMITED MONARCHY.

This monarchy gave way to the REPUBLICAN GOVERNMENT, the 23d September, 1792. The latter form of government merged into that of the consular government, 1800.

In May, 1802, Bonaparte was chosen first consul for life, and in 1804 he was crowned as Emperor by Pope Pius VII.

On April 7, 1814, Napoleon resigned the crown, and the island of Elba was ceded to him.

Louis XVIII. was then recalled to the throne, but Napoleon reappearing in France, March 1, 1815, King Louis and his adherents left the country. Louis returned after Napoleon's defeat at Waterloo, and Napoleon was then banished to St. Helena (1815).

Louis died September, 1824, and was succeeded by Charles X., brother of the deceased king.

The coronation of Charles took place at Rheims, May, 1826.

The revolution of July, 1830, drove Charles X. from the throne of France and seated Louis Philippe D'Orleans in his place. The latter's stubborn enmity to reform caused his abdication in 1848 and the establishment of a republic.

Louis Napoleon became President of France in 1848, and by the Coup d'Etat of 1851, Emperor.

The Napoleonic Absolutism endured until 1870, when Louis Napoleon was deposed and a republic instituted at Paris.

M. Thiers became the head of the provisional government, which he held until May 23, 1873, when he was succeeded by Marshal MacMahon, who in turn was succeeded by M. Grèvy, the present republican ruler of France (1886).

## BRITISH HISTORY.

THE BRITISH ISLANDS are first mentioned as being inhabited by the same Celtic race as that in Gaul, and who had made some progress in the arts and regular government previous to the Christian era.

The word Britain is from Brit, painted, the ancient inhabitants having painted their bodies.

ALBION signifies a country of heights.

JULIUS CÆSAR invaded Britain 55 B.C. THE THIRD INVASION took place 43 A.D., when Caractacus, a brave British prince, was made prisoner and carried to Rome. AGRICOLA, a Roman general, practically subdued Britain in 79 A.D., planting permanent camps and fighting some great battles. He found the inhabitants living in the north of Britain unconquerable on account of their inaccessibility.

The Romans constructed walls across the island as a security against their assaults. The first wall was built 121 A.D.

The Romans occupied Britain between 300 and 400 years.

The two separate narratives concerning England and Scotland remained distinct until 1707, when the two nations were united.

Scotland became consolidated under one monarchy before the English were in a condition to attack it, and thus maintained for a long period her independence.

IRELAND was attached by conquest to England while it was under the rule of petty kings, and its history is merged in that of England.

St. Patrick was a monk sent from Rome, 432 A.D., to preach in Ireland. His mission was successful, and he has the fame of Christianizing the Irish people. He died in Ireland 460 A.D.

The Saxons arrived in England 449 A.D., and after assisting the Britons in their wars they made themselves masters of the country.

The Saxons and Angles were war-like tribes from Germany, near the Baltic.

The native Britons generally submitted to the Saxons and Angles, but many sought refuge in the mountains of Wales, and others fled to that part of France called Brittany.

Arthur was king of the Welsh at the beginning of the Sixth Century; he died 542, mortally wounded in battle.

The rule of the Heptarchy (seven kings) lasted until 827, when Egbert united the whole into one kingdom, *marking the origin of the kingdom of England.*

During the reign of Alfred, grandson of Egbert, 871, the Danes invaded England, but were afterwards expelled by Alfred. The Danes again invaded England in 1013, and established a Danish dynasty, which consisted of four Danish kings. The Danes ravaged Ireland in the Ninth and Tenth Centuries.

The *nobles* in Anglo-Saxon times bore the name of Earls, among whom was an officer called Ealdorman—olderman—modern term alderman.

Edward the Confessor restored the old dynasty in 1042.

The battle of Hastings was fought October 14, 1066, between William of Normandy and Harold. This battle was a leading event, for it terminated the rule of the Anglo-Saxons and introduced the Norman-French dynasty.

William I., though king of England, retained his Norman dukedom, from which to this day the English hold the channel islands Guernsey and Jersey.

The present border of England and Scotland was settled about 1157.

The Plantagenet dynasty originated on the decease of Stephen, in 1154.

IRELAND was attached to the British monarchy in 1171, but the English rule was not confirmed until 1210.

The first regular English Parliament was constituted in 1265.  
The first regular Irish Parliament 1295.

THE STUART dynasty began in Scotland with Robert II.

Calais, in France, was captured by the English in 1347 and remained in their possession 211 years.

THE TUDOR dynasty began with Henry VII.

The affairs of Ireland at this period were administered by a Lord Deputy, appointed by the English sovereign, 1486.

Henry VII. was the founder of the colonial empire of England.

*The cause of the reformation* in England was a quarrel between Henry VIII. and the Pope. The Pope declared the marriage of Henry with Anne Boleyn unlawful, and excommunicated him; thereupon Henry threw off the Papal power and *assumed to be* the supreme head of the church in 1534.

In the reign of Henry VIII., then supreme head of the church, poverty, crime and violence prevailed, and 73,000 persons were executed.

In the reign of Elizabeth, in the Sixteenth Century, were commenced the North American colonies.

James VI., of Scotland, succeeded Elizabeth in 1608. This was the commencement of the Stuart dynasty in England, and is known as the union of the crowns.

The term Great Britain was introduced in 1604, when James I. was styled King of Great Britain.

The Puritans were a religious party in the reign of Elizabeth. They rejected the "Book of Common Prayer." Their principles took a more permanent hold in Scotland and they rose to importance in the reign of James I. in England.

BARONETS were first created by James I., in 1611; the title and rank were first *purchased* by persons in the rank of gentlemen for £1000.

THE PILGRIM FATHERS were a body of English non-conformers who had fled from persecution into Holland. They returned to England and embarked on a vessel called the Mayflower, landing at Cape Cod, Massachusetts, December 11, 1620.

CHARLES THE FIRST was beheaded January 30, 1648.

THE COMMONWEALTH was a government established at this time, nominally a republic, the head of which was Oliver Cromwell. Neither the Scotch nor the Irish accepted the Commonwealth, but Cromwell forced it upon them. Many of the fine monuments of antiquity in Ireland were at this time laid in ruin.

CROMWELL was appointed LORD PROTECTOR April 20, 1653, which position he occupied until his death, 1658.

MONARCHY WAS RESTORED, amidst universal rejoicings, May 8, 1660, by proclaiming Charles II. king.

THE GREAT PLAGUE in London raged in 1665, when, it is said,



as many as 100,000 died. THE GREAT FIRE IN LONDON was September 2, 1666.

THE CHURCH OF ENGLAND was reinstated at the restoration of the monarchy.

THE SOCIETY OF QUAKERS was originated about this time by George Fox. They suffered much persecution and were transported to Massachusetts, where they were treated with *greater severity* by the *Pilgrim Fathers* and *other settlers*.

To ROGER WILLIAMS, who died at Providence, R. I., 1683, belongs the distinguished honor of being the *first person in authority who proclaimed and reduced to practice the principle of perfect religious equality and toleration*.

CHARLES II. died 1685 and was succeeded by James II., of England.

WILLIAM III., PRINCE OF ORANGE, at this date was invited to come to England and conduct the government, and in *England* and *Scotland* William, Prince of Orange, and Mary were proclaimed joint sovereigns in 1689.

The battle of Boyne was fought on the banks of the river Boyne, in Ireland, between James and William, 1690. William gained a complete victory and reigned as William III. until his death in 1702, when he was succeeded by Anne, the daughter of the exile, James II.

Gibraltar was captured from the Spaniards in 1704, and has been held by the English ever since.

Queen Anne died August 1, 1714. She was the last member of the house of Stuart. George I., Elector of Hanover, succeeded to the throne on the same day. He died June 11, 1727, and was succeeded by his son, George II. George II. died October 25, 1760, and was succeeded by his grandson, George III.

During the reign of the latter George, the American war commenced, beginning April 18, 1775, and it continued until 1782, ending in the acknowledgment by George III. of the absolute independence of the colonies. In the early part of this reign *the steam engine was perfected, spinning machinery and the power loom were invented*.

THE IRISH REBELLION broke out in 1798. The rebellion was caused by the hopelessness on the part of the Irish of procuring redress for a variety of national grievances by lawful and constitutional means.

The UNION with Ireland, unpopular with the latter country, took place in 1801, but was carried by liberal bribes among the native legislators.

George—Prince of Wales—son of George III., was appointed Prince Regent in 1811, and he succeeded as king under the title of George IV. in 1820.

George IV. died 1830 and was succeeded by his brother William

IV. The latter died in 1837, and was succeeded in turn by his niece, Victoria, daughter and only child of Edward, Duke of Kent.

Victoria was born May 24, 1819, and married Prince Albert, February 10, 1840. The Prince Consort died December 14, 1861.

THE EAST INDIA COMPANY was chartered in 1600 and came to a close November 1, 1858, when the sovereignty of Queen Victoria was substituted for the rule of the company. The Prince of Wales, Albert Edward, oldest son of Queen Victoria and heir apparent, was born November 19, 1841. History will ever accord to the English people the fame of being one of the greatest nations that ever existed.

### IRISH HISTORY.

There is no other country in the world the history of which has been commented upon in so unjust a temper and tone as that of Ireland.

Almost everything in regard to Ireland is legendary and uncertain till the Fifth Century, A.D., when the inhabitants are called Scots.

About the time that the south coast of Britain was harassed by invaders, the Scots were passing in fleets of coracles from the coast of Antrim to found the little kingdom of Scotland, in the south and west of Argyle.

Christianity had found its way to Ireland before the appearance of St. Patrick, but it only attained its complete supremacy about a century after his death.

Towards the end of the Sixth Century extensive monasteries arose throughout the island, and these soon became the illustrious centres of letters and arts.

But the Celtic church, which had risen to power so rapidly, shared the fate of the clan system, on which its government was based, and by the Twelfth Century its learning had disappeared, but the church only shared in a general anarchy that it was unable to check.

From the earliest times Ireland seems to have been divided into the four principalities, Ulster, Leinster, Munster, and Connaught, being subject to the central authority of the King of Leinster, whose territorial possession was Meath, and who usually resided at Tara.

The incursions of the Danes began about the end of the Eighth Century, and led to a series of destructive struggles that lasted for 300 years, and gradually extinguished Irish civilization.

In 1169 Dermot MacMurragh, King of Leinster, paid homage to Henry II., asked of him and obtained aid to recover his dominions, from which he had been driven by one of the endless

tribal wars. He succeeded in his purposes, and added to his former possessions Dublin and other eastern towns.

Richard of Clare, surnamed Strong-bow, married Eva (Dermot's daughter), and succeeded (1171) to the kingship of Leinster; but to appease Henry was forced to surrender Dublin to the crown, and to do homage for his dominion as an English lordship.

In 1172 Henry visited Ireland with a large force, received homage from all the native rulers save the King of Connaught and the chiefs of Ulster. Before carrying out his scheme of complete conquest he was recalled by the troubles in Normandy, but he granted charters to Anglo-Norman adventurers to take possession of the independent parts of the island by force. DeCourcy entered Ulster and settled at Downpatrick.

In 1184 Henry made his youngest son, John, Lord of Ireland, but the levity of the young prince excited disturbances which led to his recall.

The Irish, with an allied Scottish force under Edward Bruce, were defeated on the bloody field of Athenry (1316) with a loss of 11,000 men, including almost the whole of the great clan of the O'Connors.

The statute of Kilkenny (1367) in vain forbade any man of English blood to adopt the Irish name, dress or language.

Richard II. reduced the whole island to subjection, but the withdrawal of his soldiers was the signal for a return to misrule.

The barons were again all-powerful, but Henry finally subjected them, and he set himself to the task of making Ireland English.

In 1541 Henry assumed the title of King of Ireland, and the island was again plunged into strife by the endeavor to thrust upon it the Reformation doctrines.

In 1567 Sir Henry Sidney defeated the valorous Shane O'Neill, the successor to the earldom of Tyrone.

A formidable revolt occurred in 1598, which was only quelled after three years' hard fighting, when a chain of forts was thrown across the conquered country, and the work of devastation was completed by a famine.

The chiefs were legally deprived of their tribal authority and reduced simply to nobles or landowners.

The clansmen rose from subjects into tenants, rendering to their lords only fixed dues and services.

In the reign of James I. was effected the great revolutionary measure known as the "Plantation of Ulster" (1610). Two thirds of the north of Ireland, declared to have been confiscated to the crown, was cleared of Irishry and allotted to new Scotch and English settlers.

Strafford cowed Ireland for a time, but a revolt followed, which was crushed out by Cromwell, and the determined but hopeless defense of Limerick was the last display of national bravery.



For the next hundred years Ireland remained passive under a terrible legal tyranny. The stringent penal statutes against the Catholics caused the rebellion of 1798, which was suppressed at Vinegar Hill, and THE ACT OF UNION with Great Britain, brought about by bribery and corruption, passed into law January 1, 1801. From this time the history of Ireland is merged into that of Great Britain.

## HISTORY OF THE UNITED STATES OF AMERICA.

ICELAND was discovered by shipwrecked Danes about 900 A.D. The discovery of Greenland by some of the Danes who had gone to live in Iceland followed a few years later.

ERIC THE RED early went from Iceland to Greenland to live, and reports brought by adventurous sailors of coasts seen by them when in quest of Greenland, induced Lief, one of the sons of Eric, to go in search of these strange lands. This was about the year 1000. The first land made is supposed to have been Newfoundland, then Nova Scotia, and finally Cape Cod. They landed on the Coast of Massachusetts and put up log houses. They finally returned to Greenland.

In those early times intelligence of what occurred was a long time in reaching the world at large. Hence a long period elapsed before we hear of any new attempts at discovery of new lands. There are evidences, however, that the Norsemen found their way down the coast of North America as far as Rhode Island, and it is supposed that the round tower still at Newport, R. I., was built by them long before the time of Columbus.

The first inhabitants of America met with by early discoverers were tall and straight, with dark red skins and coarse, straight black hair, and were called Indians, as it was then thought that America was a part of India. They lived by hunting and fishing, dwelt in conical huts, and the women did all the drudgery.

During the latter part of the Fifteenth Century, Christopher Columbus, a native of Genoa, who was a shipowner and traded with Asia, lost his vessel in a sea-fight near the coast of Portugal. He succeeded in reaching the shore by swimming and found his way to Lisbon.

Columbus, different from the masses who lived in his time, had long entertained the idea that the world was round and that the distance to Asia would be much shortened by sailing due west. After trying and failing to obtain aid to carry out his views in Italy, in 1484 he went to Portugal, and failing there, he was finally assisted by Isabella of Spain, who fitted out for him three ships and he set sail on his voyage of discovery in 1492. This voyage resulted in the discovery of San Salvador and the rest of the West India islands. During his fourth voyage in 1498 he discovered South America.

When what Columbus had done was made known in England, John Cabot, by leave of the king, made his way to the new world.

The Cabots were followed by English, French, and other voyagers, who planted colonies in the new world.

Our space permits us to note only, that—

Florida was settled by the Spaniards at Tallahassee in 1515.  
 Virginia\*, 1607, by the English at Jamestown.  
 New York,\* 1614, by the Dutch at New York.  
 Massachusetts,\* 1620, by the English Puritans at Plymouth.  
 New Hampshire,\* 1623, by the English at Dover.  
 New Jersey,\* 1624, by the Dutch and Danes at Trenton.  
 Maine, 1625, by the English at Augusta,  
 Delaware,\* 1627, by the Swedes and Finns at Dover.  
 Connecticut,\* 1633, by the English from Mass., at Hartford.  
 Maryland,\* 1634, by the English, at Annapolis.  
 Rhode Island,\* 1663, by the English at Providence.  
 North Carolina,\* 1663, by the English at Albemarle.  
 Wisconsin, 1669, by the French at Green Bay.  
 Michigan, 1670, by the French at Detroit.  
 South Carolina,\* 1670, by the English at Port Royal.  
 Pennsylvania,\* 1682, by the English at Philadelphia.  
 Arkansas, 1685, by the French at Arkansas Post.  
 Texas, 1690, by the Spaniards at San Antonio.  
 Indiana, 1690, by the French at Vincennes.  
 Louisiana, 1699, by the French at Iberville.  
 Alabama, 1711, by the French at Mobile.  
 Mississippi, 1716, by the French at Natchez.  
 Illinois, 1720, by the French at Kaskaskia.  
 Vermont, 1725, from Massachusetts, at Fort Dummer.  
 Georgia,\* 1733, by the English at Savannah.  
 Tennessee, 1757, from North Carolina at Fort London.  
 Missouri, 1764, by the French at St. Louis.  
 California, 1769, by the Spaniards at San Diego.  
 Kentucky, 1775, from Virginia, at Boonesboro.  
 Ohio, 1788, from New England, at Marietta.  
 Oregon, 1811, from New York, at Astoria.  
 Iowa, 1833, from New England, at Burlington.  
 Minnesota, 1846, from New England, at St. Paul.  
 Kansas, 1850, from New England and Western States, at Fort Leavenworth.  
 Nevada, 1861, from California, at Washoe.  
 West Virginia, 1862 (see Virginia), formed from Virginia.  
 Nebraska, 1854, from New England and Western States.  
 Colorado, 1858, from the Western States.

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\* The thirteen original States.

In 1765 THE STAMP ACT was imposed on the American Colonists, and in 1775 THE FIRST FIGHT occurred at LEXINGTON, which resulted in the DECLARATION OF INDEPENDENCE, July 4, 1776. After a war of eight years the independence of the Colonies was acknowledged by George III.

THE FIRST PRESIDENT was George Washington, who served two terms, from 1789 to 1797, when he was followed by John Adams, during whose term, 1800, the government centred at Washington.

THOMAS JEFFERSON was the next president, from 1801 to 1809; then followed James Madison, 1809 to 1817. During this term *war was declared with England* (1812), lasting three years. This war originated from the denial by America of the *asserted right of search* of American vessels by the English.

From 1817 to 1825 the presidential chair was occupied by James Monroe. In this term, 1819, *the Northern boundary line* was confirmed, also at this period was announced the "Monroe doctrine" *of non-interference on the part of the United States in European affairs, nor permitting European interference on this Continent.*

John Quincy Adams was president from 1825 to 1829.

Andrew Jackson from 1829 to 1837. In 1835 the national debt was wiped out.

Martin Van Buren presided from 1837 to 1841.

Wm. Henry Harrison was next elected, but died shortly after taking the chair, and was succeeded by John Tyler, whose term ended 1845; then followed James K. Polk, from 1845 to 1849.

In 1848 the Mormons settled Utah, having been driven out of Illinois.

Zachary Taylor was elected 1849; he died during his term, and was succeeded by Millard Fillmore; after whom came Franklin Pierce, 1853 to 1857; when James Buchanan followed, from 1857 to 1861.

This latter year was that of *secession*, and ten States formed a Southern Confederacy, and civil war began, which lasted until 1865, ending in the success of the Northern States.

Abraham Lincoln was inaugurated in 1861. He proclaimed the *emancipation of slaves* 1863, was assassinated 1865, and was succeeded by Andrew Johnson, whose term lasted until 1869, when he was succeeded by Ulysses S. Grant, who served two terms.

R. B. Hayes presided from 1877 to 1881. James A. Garfield was the next president, and was assassinated the first year of his office, when Chester A. Arthur became president. Arthur was succeeded by Grover A. Cleveland 1885.

The United States have grown from a small number of inhabitants to 55,000,000 people.

The war of Mexico (1846) resulted in the defeat of the Mexi-



cans, and the cession of California (1858) and large parts of Mexico to the United States.

Alaska was purchased from Russia in 1867 for \$7,000,000.

In America was built the first *practical* steamboat (by Robert Fulton, at New York, 1807), and *the first telegraphic instrument* (invented by Prof. Morse) was used for the first message May 27, 1844.

*The first steamboat* that ever crossed the Atlantic was the Savannah, from Savannah to Liverpool, in 1819, the trip being made in seventeen days.

America is the home of many useful inventions, such as the cotton gin, improved reapers and mowers, improvement in printing presses, the telephone, etc. With the highest offices of the government open to all, with freedom of worship guaranteed, with education free to every one, and with a country of boundless resources, the future of the American citizen is a flattering one. It rests with the people themselves whether their happiness and prosperity shall indefinitely continue.

### LANGUAGE.

Philology is a science dealing with the whole body of language. It is partly historical and partly physical. Historical, because it traces the gradual evolution of human thought, as recorded in language; physical, because the articulate sounds through which that thought must find its utterance are subject to the restraints of physiological conditions. It is one of the youngest of the sciences, dating only from the opening years of the present century.

The first step on the pathway of linguistic knowledge was taken by the grammarians of Alexandria, who analyzed the Greek language for the purpose of teaching it to the youth of Rome. To them we owe our present terminology.

The term Semitic, now used to designate one of the great families of language, is derived from the name Shem in Gen. xi. 21.

The Semitic languages fall into three groups: 1, the Aramaic or Northern; 2, the Hebrew or Middle; 3, the Arabic or Southern.

The boundaries within which the Semitic languages are spoken have hardly ever changed, and may be described as the mountains of Armenia in the North; those which limit the Tigris basin in the East, and the Red Sea with certain portions of Asia Minor on the West. In these languages every thing is painted from its external appearance, so that even words of the mind are denoted by words which describe a physical condition, *e. g.*, pride, by lifting up the head, etc. They have no inherent capacity, such as we see in those of the Aryan family, for dealing with the abstract and ideal.

Aryan is the name now applied to a group of languages and

racés which formerly went under the name of Indo-European or Indo-Germanic. The original home of the ancestors of the Aryan races is held by universal consent to have been the plateau of Central Asia.

To the Aryan group of languages belong the Sanscrit, Hindustani, Greek, Latin, Celtic, German, English and other tongues. (For more extended information on this subject see Whitney's *Life and Growth of Language*: New York, 1875.)

### LITERATURE.

Under the name of literature are embraced history, philosophy, poetry, prose, etc., and it may be defined as the writings contained in books in ancient and modern times.

In literature EPIC poetry is a long narrative poem, dealing generally with heroic or superhuman persons and events, with romantic or supernatural exploits and adventures.

LYRIC poetry is the expression of the poet's own feelings. The song, either sacred or secular, is the finest form of the lyric.

IDYLL was at first strictly a short pastoral poem, but did not long retain a solely pastoral character, but sometimes gave glimpses of town as well as country life.

DRAMATIC poetry is divided into *tragic* and *comic*.

Tragedy is a grave drama. Comedy is a sportive, witty and amusing drama, and opera is a musical drama.

### GRECIAN LITERATURE.

In Greece, or Hellas, poetry was the earliest birth of literature. The earliest extant Hellenic poems, and certainly the greatest, are the *Iliad* and *Odyssey* of Homer (962-927 B.C.).

The Century 950-850 B.C. may be said to have witnessed the dawn, noon and sunset of epic poetry in Hellas. Next in order came the lyric, elegiac, and iambic poets (800-530 B.C.), among whom were Sappho and Anacreon.

The most distinguished period of Grecian literature and philosophy extended from about 500-146 B.C.

Eschylus, born 525 B.C., is usually styled the "Father of Tragedy."

Pindar, another famous Greek poet, was born 520 B.C.

Sophocles, a celebrated Greek dramatist, 495 B.C.

Æsop is said to have been a freed Greek slave, who lived about 550 B.C.

Pythagoras was a Greek philosopher 570 B.C.

ESCULAPIUS was a physician rendered famous by Homer.

HIPPOCRATES, an eminent Greek physician (460 B.C.), claimed to have descended from Esculapius.

ARISTOTLE (383 B.C.), a Greek philosopher, had Alexander the Great as one of his pupils.

The ancient philosophers taught that the world was stationary, in the centre of the heavens, and that the sun revolved around it, a theory maintained until the discoveries of Copernicus.

SOCRATES, a Greek philosopher, had among his pupils Alcibiades, Crito, Xenophon, Aristippus, Phædon and Plato.

Socrates taught that there was but one divine being, whose favor can only be propitiated by a blameless life. He sacrificed and prayed, however, at the heathen altars. He drank the poison B.C. 339.

PLATO, the greatest of Greek philosophers, was born 429 B.C. His original name was Aristocles, and he was called Plato, from *platus*, broad, on account of his breadth of chest and forehead.

Platonic affection is a doctrine of Plato, that happiness consists of a union of kindred souls in the love and zealous search for truth.

*The Cynics* were a set of Greek philosophers noted for the morose and snarling character of their doctrines. They were established by Antisthenes, a pupil of Socrates (B.C. 426).

DIOGENES, who must be considered a religious fanatic of the sect of Cynics, died 324 B.C.

ZENO was born 366 B.C. He studied with the Cynics and founded the Stoics. Stoical philosophy absorbed that of the Cynics, was less severe, but callous of feeling, and sanctioned the principle of self-destruction.

DEMOCRITUS (470 B.C.) taught the doctrine of the eternal existence of atoms.

THE EPICUREANS, followers of Epicurus (B.C. 341), taught that pleasure, apart from vicious or sensual indulgence, is the chief good. Herodotus, the "Father of History" (384 B.C.), was the earliest Greek historian. The geographic accounts of Herodotus have been generally verified and prized for their accuracy.

THUCYDIDES (B.C. 471), a contemporary of Herodotus, was the most philosophical of Ancient historians, and noted for accuracy, profundity and dignity of style.

XENOPHON (450 B.C.), a pupil of Socrates, was a celebrated Greek general and writer.

EUCLID, born at Alexandria (300 B.C.), was the world's famous geometer. His "elements" are still the standard authority in Britain for the student to obtain the first principles of geometry.

POLYBIUS (204 B.C.) is noted for his History of Rome, from its capture by the Gauls to the subjugation of Macedonia.

STRABO (66 B.C.) and Pausanias (150 A.D.) were two later Greek geographers; their writings, with those of Herodotus and Ptolemy, of Alexandria (139 A.D.), furnish the chief information about ancient countries.



PLUTARCH (80 B.C.) taught philosophy in Rome, and no one in ancient or modern time has excelled him as a biographer.

### ROMAN LITERATURE.

The Romans were not as distinguished for philosophy and literature as the Greeks, but in history and jurisprudence they rank higher.

The most brilliant period of Roman literature was from 81 B.C. to 14 A.D., about ninety-five years.

Among the most distinguished Romans for literature, learning, and general accomplishments were:

PLAUTUS (284 B.C.), the greatest Roman comic poet.

TERENCE (195 B.C.), the greatest Roman comic dramatist.

CICERO (106 B.C.), the greatest orator of Rome.

VARRO was a great writer and a friend of Cicero.

ROSCIUS (68 B.C.) was a celebrated comic actor.

LUCRETIVS (95 B.C.) a famous didactic poet.

SALLUST (86 B.C.) a noted historian.

SENECA, famed for his rhetoric and ethics, committed suicide 65 A.D.

LIVY (59 B.C.) was the most illustrious of Roman historians.

JULIUS CÆSAR, the great statesman and general, was assassinated 44 B.C.

OVID (43 B.C.) was a famous poet.

HORACE (65 B.C.), most illustrious of Roman poets and writers.

VIRGIL (70 B.C.) was distinguished for his epic, didactic and pastoral poetry.

VITRUVIUS, time of Augustus, was noted for his writings on architecture.

PLINY, *the elder* (23 A.D.), was an eminent writer on natural history.

PLINY, *the younger* (61 A.D.), was noted for his epistles, in which he gives an account of the early Christians.

QUINTILLIAN (90 A.D.) was the greatest authority among the ancients on style.

TACITUS (60 A.D.) was a great Roman historian.

CELSUS was a celebrated physician.

GALEN (130 A.D.), an Asiatic Greek by birth, practised medicine at Rome and has left many treatises on medicine.

### MEDIÆVAL LITERATURE.

LATIN continued to be the language of literature until about the middle of the Fourteenth Century.

The FATHERS of the Church were teachers who lived from the times of the Apostles until the Seventh Century, some of whom

were Clement of Alexandria, Lactantius, Origen, Eusebius, Athanasius, Chrysostom, Tertullian, Augustine, Ambrose and Jerome.

ARIUS, of the Fourth Century, taught that the Son is inferior to the Father. Arianism is opposed to the Trinity.

The SAGAS were Scandinavian historical poems about the Twelfth Century.

ARABIC learning extended from the Eighth to the Fourteenth Century.

HAFIZ, an eminent Persian poet, died 1388 A.D.

"The ARABIAN Nights' Entertainments" were a collection of wild and oriental fictions, partly in India, Persia and Arabia, perfected in Persia shortly after the reign of Caliph Haroun Al-Raschid, Eighth Century. They were first made known by M. Gallaud, 1704, but the best translation was executed by Dr. Edward Lane, published 1839.

PARACELsus was a bold Swiss who repudiated Galen and old medical authorities. He helped break up antiquated notions and to improve the practice of medicine (killed 1541).

In the MIDDLE AGES there was no drama, nothing but mummeries and miracle plays.

ROMANCES were stories about saints, knights, giants, etc.

## CONTINENTAL LITERATURE.

Began in Italy in the Thirteenth Century, previous to the general revival of learning, and embraced the following:

DANTE, an eminent poet, born, Florence, 1265; PETRARCH, lyrical poet, died 1374; BOCCACCIO, novelist, died 1375; MACHIAVELLI, statesman, 1527; ARIOSTO, poet, 1533; GUICCIARDINI, historian, 1540; TASSO, epic poet, 1595; GALILEO, famous for discoveries in physical sciences. He confirmed the Copernican system, and was imprisoned by the Inquisition on account of his advanced ideas. He died 1642. TORRICELLI, follower of Galileo, discovered the pressure of air and invented the barometer. GALVANI, the discoverer of galvanism, died, 1642.

## SPANISH LITERATURE.

The "*Cid*" was an old Spanish poem, written 1150.

CERVANTES was the greatest writer Spain ever produced; his principal work was Don Quixote. He was born 1547.

LOPE DE VEGA, 1635; CALDERON, QUEVEDO and CAMOENS (a Portuguese poet) were all famous writers and dramatists.

**FRENCH LITERATURE.**

FRENCH LITERATURE commenced with the songs of the troubadours in the Twelfth and Thirteenth Centuries. Among the most prominent writers we find:

FROISSART, the chronicler, died 1410; RABELAIS, satirical and humorous writer, 1533; JEAN CALVIN, theologian, 1564; MONTAIGNE, essayist, 1592; SULLY, statesman and writer, 1641; PASCAL, religious writer, 1622; DE SEVIGNE (Madame) epistolary writer, 1696; Corneille, the great dramatist, 1684; Molière, the great comedian, 1673; RACINE, scriptural dramatist, 1697; La Fontaine, poet and fabulist, 1695; BOILEAU, satirical poet, 1711; BOSSUET, Bourdaloue, and Massillon, famous pulpit orators of the Eighteenth Century; LA BRUYÈRE, writer on character and manners, died 1696; Bayle, wit, logic, learning and skepticism, 1706; Vauban, fortifications, 1707; Fénelon, author of *Télémaque*, 1714; Rollin, historian, 1741; LE SAGE, novelist and author of "*Gil Blas*," 1747; VOLTAIRE, poet, dramatist, historian, etc., 1778; BUFFON, naturalist, latter part of Eighteenth Century; LAPLACE, astronomer, 1827; JUSSIEU, botanist, 1836; Chateaubriand, political writer, 1848; Béranger, poet, 1857; Michelet, historian, 1874; Lamennais, politico-religious writer, 1854; Guizot, historian, 1874; THIERS, DE TOCQUEVILLE, LAMARTINE, D'Aubigne, Comte, were writers and poets of the Nineteenth Century.

**GERMAN LITERATURE.**

GERMAN LITERATURE begins in the Eighteenth Century with GOETHE, KLOPSTOCK and SCHILLER.

Although this literature is of recent origin, there have been many writers whose works form a staple trade at Leipsic.

COPERNICUS, the great mathematician and astronomer, died 1543. TYCHO BRAHE, a Dane, who succeeded Copernicus as an astronomical discoverer, added greatly to the general knowledge of the planets and stars (1601). KEPLER, famous for his discovery of certain laws of light and planetary motion, died 1630. PUFFENDORF (1694) was famous for his celebrated work, "*The laws of nature and nations*," which work remains an authority on the subject. LINNAEUS, a Swede, was a famous botanist (1778). LAVATER, a Swiss, was the author of a great work on physiognomy, 1801. KANT (1804), the transcendentalist (that which goes beyond the limit of experience).

GOETHE, poet, dramatist, and greatest of German writers, died 1832.

SCHILLER, poet and dramatist, died 1805.

KOTZEBUE, a famous dramatist, was assassinated 1819.



HUMBOLDT (Karl), famed for philological treatises, died 1835.

HUMBOLDT (Alexander), one of the greatest of naturalists and geographers, died 1859.

Gall, the founder of phrenology, died 1832.

Liebig, the famous chemist, died 1873.

German literature of the present day is less occupied with philosophical systems and metaphysics than formerly.

DUTCH LITERATURE is not of ancient date, and is but little known beyond the Netherlands.

KARAMSIN was the most eminent prose writer of Russia.

PUSHKIN was the most distinguished poet. He was sometimes called the Russian Byron.

### ENGLISH LITERATURE.

Begins with CHAUCER, who died about 1400.

Some early Scottish writers wrote in Latin, others in the Scottish vernacular of the period.

In the reign of Elizabeth English literature became more national and acquired vigor and elegance. Poetry and the drama rose to a high degree of excellence.

BEAUMONT and FLETCHER, in the Sixteenth Century, wrote fifty-two plays, which still keep their place in English literature.

The works of SHAKESPEARE were published seven years after his death. They were not thoroughly appreciated during his life. He was born in 1564 and died 1616.

SIDNEY, HOOKER and BACON were the most distinguished prose writers of this era.

The English poets from 1649 to 1689 include MILTON, BUTLER and DRYDEN.

The prose writers were EDWARD HYDE, IZAAK WALTON, EVELYN, LOCKE, PEPYS, BAXTER, BUNYAN, TEMPLE, HALE, BOYLE, ISAAC NEWTON and others.

From 1689 to 1727 the following writers appeared: DANIEL DEFOE, STEELE, ADDISON, PRIOR, SWIFT, POPE, ST. JOHN, PARNELL, GAY, LADY MONTAGU, COOPER, BERKELEY.

From 1727 to 1760 THOMSON, MALLETT, HUME and SMOLLETT (of Scottish birth), COLLINS, WATTS, BRUCE, JOHNSON, GRAY, FIELDING, FOOTE and RICHARDSON.

From 1760 to 1800 the most noted writers were GOLDSMITH, BOSWELL, FALCONER, BEATTIE, SMART, WOLCOTT, BAILLIE (JOANNA), SHERIDAN, COLEMAN, STERNE, WALPOLE, GIBBON, HALLEY, BLAIR, WILBERFORCE, BURKE, ADAM SMITH, HANNAH MORE, MUNGO PARK, COWPER and BURNS.

1801 to 1865 we find BENTHAM, ROGERS, WORDSWORTH, COLERIDGE, SOUTHEY, LAMB, THOMAS MOORE, CAMPBELL, SCOTT, BYRON, SYDNEY SMITH and SHELLEY.

The great novelists of our times include THACKERAY, DOUGLAS JERROLD, DICKENS and BULWER. The historians, MACAULAY, FROUDE, GROTE and ALISON.

Some of the distinguished scientific writers of this century were DAVY, DALTON, LYELL, MURCHISON, BREWSTER, HUGH MILLER, OWEN and HERSCHEL.

Among the miscellaneous writers are DE QUINCEY, McCULLOCH, CHALMERS, CARLYLE, and MILL.

Some of the earlier American writers and statesmen were FRANKLIN, EDWARDS and DWIGHT. Among the more recent are BANCROFT, IRVING, PRESCOTT, EMERSON, MOTLEY, LOWELL, NOAH WEBSTER, HAWTHORNE and COOPER.

Among the familiar poets of the present age are TENNYSON, LONGFELLOW, BRYANT, WHITTIER, WILLIS, HALLECK, EDGAR A. POE, STEDMAN, HOLMES, CARLETON, MILLER, SIMS, SAXE, etc.

### MYTHOLOGY.

The study of this science when conducted in proper methods throws great light on some of the early thoughts of mankind. Nobody knows by whom, or at what time, or under what circumstances, it was originated.

Originally the Myths, of which Mythology is composed, were told to be believed, and to disbelieve them was to be an infidel, a heretic and blasphemer.

We give some of the characters, culled from Greek and Roman history:

ANDROMEDA was one of the dawn myths, married to the sun hero, Perseus.

APHRODITE, or VENUS, another of the dawn myths, was the goddess of beauty and love.

APOLLO, son of Jupiter and Latona, was one of the sun myths. He was the god of archery, music and song.

ARGUS, the all-seeing, was a monster with a hundred eyes, of which two only were asleep at a time. Jupiter slew him, and Juno took the eyes and put them on the tail of the peacock.

ARTEMIS, or DIANA, sister of Apollo, personified the goddess of the chase.

ATLANTA represents the dawn.

ATHENE, or MINERVA, was the goddess of wisdom.

BACCHUS was the god of the vine.

BOREAS, god of the winds, symbolizes confusion.

CASTOR and POLLUX represent dawn and twilight.

CENTAURS. The Centaurs were a savage race, with the upper part of their bodies that of a man and the lower part that of a horse. They symbolize cloud masses, the heads lit up by the sun and the rest in shade.

CERBERUS was the three-headed dog that guarded the lower regions.

CHAOS was the husband of Gaia, the earth.

CHIMERA, the Greek word for a she-goat, belongs to the myths of darkness.

CIRCE, daughter of the sun, was a moon myth. She is the goddess of sorcery.

CRONUS, KRONOS, or SATURN, was the god of time, son of heaven and earth, and father of Jupiter.

CUPID, or EROS, was the god of love and son of Venus. He married Psyche.

CERES was the goddess of corn and agriculture.

DEUCALION, son of Prometheus, was saved with his wife Pyrrha from the nine days' deluge (which destroyed all the other inhabitants of the earth), by shutting himself up in a chest and floating upon the waters, finally resting upon Mt. Caucasus.

ENDYMION was a sun myth, beloved by Diana. The name signifies the sun as he dips in the sea.

EUROPA was the sister of the sun. Jupiter, in the form of a bull, carried her away.

FATES. The Fates are three sisters, dreadful and inexorable, whose power transcends that of Jupiter himself.

HESPERIDES. The garden of the Hesperides was an enchanted place. The myths of this enchanted land symbolize the beauties of the western clouds and sky at sunset.

GRACES. The Graces were three beautiful goddesses, representing Grace, Favor and Gentleness. Their names were Aglaia, Thalia and Euphrosyne.

HARPIES. The Harpies were hideous creatures, with the bodies of maidens and the feet and wings of ravens.

HEBE was the goddess of youth. She was married to Hercules.

HELENA was daughter of Sky and Night.

HELIOS was the sun god.

HERA, or JUNO, was wife of Jupiter.

HERCULES, son of Zeus and Alcmene, a mortal of god-like character, represented human perfection. His labors were twelve in number. 1st. He killed a furious lion by tearing its jaws apart with his hands. 2d. He killed the Lernæan Hydra, a frightful serpent with a number of heads. 3d. He caught the swift-footed stag of Artemis. 4th. He caught alive an enormous wild boar. 5th. He cleaned, in one day, the Augean stables, in which 3000 oxen had stood for fifty years. 6th. He killed certain foul birds that fed on human flesh. 7th. He captured the Cretan bull. 8th. He killed Diomedes, and carried away his man-eating mares. 9th. He brought to his daughter Admete the girdle of the Queen of the Amazons. 10th. He captured the oxen of the giant Geryones. 11th. He fetched the golden apples from the garden of the Hes-



perides. 12th. He dragged the ferocious dog Cerberus, which had three heads, from the portals of hell.

HERMES, or MERCURY, was the messenger of the gods.

HEPHÆSTUS, or VULCAN, was the god of fire and forger of thunderbolts.

HYLAS, the most beautiful boy in Greece, was dragged down into a forest pool by the Nymphs, and never seen again.

INO is the open and glaring day.

IO, daughter of a king of Argos. She was beloved by Jupiter, and changed by him into a white cow, etc.

JASON was the nephew of Pelias, King of Iolcus, by whom he was sent to fetch the golden fleece.

LEDA, or LETO, married Jupiter and became the mother of Apollo and Artemis.

MEDUSA, a myth of darkness, was destroyed by Perseus.

MINOS, King of Crete, was father of Ariadne.

MINOTAUR was a monster, half man, half bull, who lived in the labyrinth of Crete.

MUSES. The muses, daughters of Jupiter, were the divine inspirers of song. They were nine in number. Calliope, the epic muse; Clio, the muse of history; Euterpe, of lyric verses; Melpomene, of tragedy; Terpsichore, of dance and song; Erato, of amatory verses; Polyhymnia, of the hymn; Urania, of astronomy; Thalia, of comedy and the idyll.

MARS was the god of war.

NEREUS was the sea god.

NIOBE was the daughter of Tantalus. Boasting of her superiority to Leda, she was punished by having all her children taken away from her at once.

OCEANUS was the great stream of the Greeks that flowed around the world.

ORPHEUS was the son of Apollo, and celebrated for his musical powers.

OLYMPUS, Mt., was the abode of the gods.

OSSA, Mt. The giants tried to set this mountain on the top of Mt. Pelion, and so climb up to Olympus.

ORACLE was a temple of Apollo at Delphi, where the god vouchsafed prophetic answers.

PANDORA was fashioned by Vulcan out of clay and endowed with gifts by all the gods. A box was given her filled with blessings, and her curiosity prompting her to open it, all flew out except hope.

PEGASUS was a beautiful winged horse.

PERSEPHONE, daughter of Ceres, was carried off by Pluto, to be queen of the lower world.

PERSEUS was a son of Jupiter.

PHAETHON, or PHAETON, son of the sun-god, was destroyed by Jupiter with a thunderbolt.

PHÆDRA was daughter of Minos, King of Crete.

PLUTO was son of Cronus and king of the lower world.

POSEIDON, or NEPTUNE, was son of Chronos. The sea is made subject to him.

PROMETHEUS (one of the Titans) stole fire from heaven, and for punishment was chained to Mt. Caucasus, where an eagle preyed upon his liver. He was delivered by Hercules. He warned his son Deucalion of the flood.

PSYCHE was a beautiful goddess married to Cupid. Her name is the Greek word for soul.

PYRRHA was wife of Deucalion. The Eve of the Greeks.

RHEA was wife of Chronos. The great Earth Mother.

SILENUS was the god of humor.

SIRENS were treacherous sea nymphs.

SPHINX was a monster with the head of a woman and the body of a lioness.

STYX was a river of the lower world.

TANTALUS, father of Niobe, was condemned to unending punishment in the lower world.

TARTARUS was a dark pit below the earth.

TITANS were children of Uranus and Gaia.

TRIPOD was a three-legged stool on which the Priestess of Apollo sat.

URANUS was god of the sky.

VESTA was the goddess of home.

ZEUS, or JUPITER, was son of Chronos and Rhea.

PYGMALION was a statuary who carved a beautiful female statue in ivory, which, when Venus endowed it with life, he married.

## ASTRONOMY.

Astronomy treats of the motions and natures of the heavenly bodies. It is in all probability the most ancient, as it is unquestionably the noblest, of the physical sciences.

It can scarcely be disputed that the Chinese have the oldest authentic observations on record, which they assert go back 2857 years B.C.

The Chaldeans seem to have been the first to make really reliable observations.

The astronomy of Greece begins with Thales (640 B.C.). He taught the Greeks the use of the constellation of the Little Bear in navigation.

PYTHAGORAS (500 B.C.), the next astronomer of eminence, was far before his age. He promulgated the true doctrine of the

motion of the earth round the sun, and showed that the morning and evening stars were one and the same planet.

The ancients believed that the sun, planets and stars revolved around the earth. It is now known that the sun is a central body around which the earth and other planets revolve.

The principal planets are eight in number, namely: Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Uranus and Neptune. In all there are more than one hundred.

The planets are supposed to be worlds deriving heat and light from the sun. They differ in size, Jupiter being the largest.

The stars are suns, at an inconceivable distance from the earth, and the planets are believed to revolve around them.

Planets do not twinkle like stars, but shine steadily.

Sometimes planets like Jupiter and Venus are spoken of as morning and evening stars.

The color of Venus is a pure sparkling white.

Mercury, a dullish blue.

Saturn, a reddish tinge.

Mars, a fiery red; and Jupiter, white.

The blaze of the sunlight prevents our seeing the stars during the daytime. Among the noted constellations are Orion, the Great Bear and the Southern Cross. The latter is not seen in northern latitudes.

The North Star is situated nearly due north, in a line with two stars called the pointers.

The Galaxy, or Milky Way, is a broad white streak seen in the sky at night.

The solar system includes, besides the planets, comets and satellites. There are many comets, and they travel in all directions, approaching the sun and receding from it.

Satellites are sometimes called secondary planets. The moon is the earth's satellite, and is about one fourth the diameter of the earth, while the sun is one million four hundred thousand times greater than the earth.

The earth turning round deceives our senses and causes us to think the sun rises.

The sun is always shining on some part of the earth.

The term pole is a Greek word signifying pivot or turning point.

The moon is believed to consist of rocks and other opaque materials, and is not inhabited. It gives a reflected light from the sun shining upon it.

Astrologers were persons who pretended to tell fortunes by the stars.



## GEOGRAPHY.

The word geography literally means a description of the earth. The science is commonly divided into three departments, astronomical, physical and political.

Among the earliest records of geography are the five books of Moses (Pentateuch) and the Book of Joshua, which contain frequent and singularly correct reference to contemporary Egypt and Arabia.

In 568 B.C. ANAXIMANDER of Miletus is supposed to have invented *geographical maps*.

The world of HERODOTUS (484 B.C.), the father not only of history but of geography, extends from the Red Sea or Indian Ocean to the Amber lands of the Baltic, and from the Atlantic to the west boundary of Persia.

ERATOSTHENES (276 B.C.) invented the *parallels of latitude and longitude*.

Geography made vast strides under the Romans, who carefully took account of the material resources of every conquered country.

In the *Historia Naturalis* of Pliny mention is made of the Scandinavian lands and of the Arctic regions, of settlements in various parts of Africa, of the course of the Niger, of the *island* of Ceylon, etc.

The geography of Ptolemy embodied the latest contributions to the study of geography in ancient times, and remained the acknowledged canon during the middle ages.

In the Eighth Century the Arabs eagerly seized upon the study of geography, and towards the end of the middle ages a great accession of knowledge resulted from the travels of the Venetians, Genoese and Portuguese.

The works of Carpini, Marco Polo and Sir John Mandeville first gave information regarding Central and Eastern Asia. Then followed the discovery of America in 1492, and the doubling of the Cape of Good Hope, by Vasco da Gama, in 1497.

In the Sixteenth Century took place the remarkable arctic expeditions of Willoughby, Frobisher and Davis. The discoveries by Tasman and Van Diemen, in Australasia, were greatly extended by those of Cook in the Eighteenth Century.

The Nineteenth Century witnessed the discovery of the antarctic continent in 1840; the opening up of the African interior by the explorations of BURTON, SPEKE, LIVINGSTONE, STANLEY, etc.; the investigation of Central Australia; the survey of Central Asia by the Russian Government, and the arctic explorations of the English and American governments. To the latter belongs the honor of having reached the farthest northern point.

Modern geography teaches us that:

The earth's surface is about 200,000,000 of square miles in extent, two thirds of which is occupied by water.

The land consists of continents and islands; the water consists of oceans, seas, lakes and rivers.

The oceans, seas and bays are constantly agitated by tides, which flow and ebb twice in about *twenty-five* hours.

The combined action of the sun and moon, but more particularly the moon, causes the tides.

When it is high water on one side of the globe it is high water at the place exactly opposite it on the other side. The Mediterranean is noted for having very little tide, in consequence of its narrow inlet from the ocean.

The population of the earth is reckoned to be about a thousand million of people.

### GEOLOGY.

GEOLOGY treats of the structure, surface, configuration and composition of the earth.

By geology we learn much of the past history of the globe, besides the knowledge of materials that are useful in the arts.

The remains of plants and animals are found in some stratified rocks. They became incorporated there while the rocks were forming by the settlement of loose materials in water. Many of them retain their original forms, but have all been changed into stone.

PALEONTOLOGY is a branch of geology which treats on this subject.

The GLOBE has undergone many convulsions, submerging some layers of rock, bringing others toward the surface, thus showing how animal remains become buried below the surface of the earth.

AIR and RUNNING WATER are constantly wearing down and carrying away parts of solid rocks.

GLACIERS and icebergs have also denuded the surface, and this, with the eruption of igneous rocks, has caused mountains to exist.

SEA-SAND, like clay and various kinds of earth, is formed by the *disintegrated materials of certain rocks*.

MINERAL is the general name for the earth's crust, such as clay, sand, limestone and other rocks, flint, blacklead, salt, coal, and the like.

ORES are minerals from which metal can be extracted by roasting the ore with fire.

THE PRINCIPAL METALS are gold, silver, iron, lead, zinc, copper, tin, nickel, antimony, etc.

COAL is composed chiefly of vegetable matter, compressed into

a compact mass, caused by the submergence of land in one of the convulsions which have caused the sea to rush in and cover the land.

Coal consists usually of forests of trees and ferns, upon the quality of which the richness of the coal depends. In digging for coal and other fossils, it becomes the more hot the lower we descend into the earth, thus creating the belief that the centre of the globe is in a state of very great heat. This heat is manifested on the surface by volcanoes and hot mineral springs.

Coal *deteriorates* rapidly from *exposure to the weather*. According to scientific experiments, coal exposed to the weather in heaps, during a period of nine months, loses fifty per cent of its value as fuel. It undergoes a process of slow combustion, taking up oxygen and giving off the volatile products of oxidation, air and moisture playing the principal part, and warmth promoting it; the valuable combustible ingredients are lost, and the injurious ones, as sulphur, oxygen and ash, are relatively increased. Neither wood nor coal can bear long exposure to the elements without losing a large share of their value for fuel.

Volcanoes are most numerous in South America. They sometimes break out in the bed of the ocean and throw up materials which form volcanic islands.

The origin of the term volcano is from Vulcan, a fabulous deity who was supposed by the ancients to reside under Mt. Etna, engaged in forging thunderbolts for Jupiter.

Petroleum is a natural oil which gushes and springs from the earth. These oil-springs are found in Burmah, in other parts of Asia, Russia, and North America.

The oil thus formed in the earth is believed to be a result of the earth's internal heat acting on beds of a rich kind of coal. Petroleum has been made from petroleum coal.

Earthquakes are supposed to be caused by volcanic action.

The ancients were acquainted with geology and mineralogy only in a limited way, the science being of comparatively modern origin.

## CHEMISTRY AND PHYSICS.

CHEMISTRY is the science of atoms. It came into use early in the Fourth Century, but it was not until the close of the Seventeenth Century that chemistry proper had any existence.

The first book on chemistry was written by Libavius, 1595.

The object of chemistry is the investigation of matter with a view to the determination of its composition and properties; and while it holds such an important and prominent position among the useful and exact sciences, and has done so much for the good of mankind and for the advancement of science generally, it had



for its origin the purely selfish desire for wealth. The alchemists were the fathers of the science.

The ancients spoke of *fire, air, earth and water* as the *four elements*. We have learned that fire is only an extreme condition of heat, and that air, earth and water are mixtures of several elements.

Chemistry has made known about sixty-four elementary or simple substances. All the objects we see around us are composed of some of these elements.

The discoveries by chemical analysis have extended a knowledge of nature, made known many useful medicines, also coloring matters, etc.

Soap and coal-gas are among the benefits derived from the knowledge of chemistry. Sand or flint and some alkaline substances are used for making glass.

GLASS-MAKING is very ancient, but much improved by the moderns.

OXYGEN is the vital principle of the air. Fire will go out if deprived of oxygen; hence in blowing a fire it is the *rush* of *oxygen* which is the true cause of the blaze.

The common air is deteriorated by breathing, and what we exhale has lost its oxygen.

CARBONIC-ACID GAS supports vegetation, but a very small quantity is injurious to animal life.

A close room where several persons are sleeping is a common cause of fevers and other illness.

The opinion that the development of fire by friction was a result of latent heat is now abandoned, and it is now supposed to be caused by the violent arresting or retardation of motion.

Black garments more readily absorb heat than those which are white.

Metals are good conductors of heat, while wood is a bad conductor.

Woollen garments do not impart warmth to the body, but keep the animal warmth from leaving us.

Water is most dense at 40 degrees.

Heat applied to water expands it.

Dew is a condensation of atmospheric moisture on blades of grass during the night.

Hoar-frost is dew frozen by the cold.

Fogs are caused by a sudden condensation of the atmosphere.

Frost is of great use in destroying insects and other vermin, also in mouldering down the hard clods of earth.

Snow shelters tender vegetation from the severity of frost.

Ice contains more or less heat.

Glaciers are huge masses of ice and snow which slide down from lofty situations.

Clouds float in the atmosphere from a few hundred feet to six miles above the earth.

The atmosphere wraps the whole earth to the height of about forty-five miles, and is more dense at the lowest level.

At the height of seven miles it is too thin to be breathed.

The tops of high mountains are perpetually covered with snow because the air is so thin that it cannot retain the heat.

To compress air requires a great deal of force, and it has a tendency to rend any vessel in which it is forcibly confined.

Water boils at the level of the sea at  $212^{\circ}$  Fahrenheit; on the top of Mt. Blanco at 189 degrees.

Air conveys sound at the rate of 1125 feet per second.

Sound travels best along the surface of the water; also along a tube.

### NATURAL PHILOSOPHY.

This science includes the laws of matter, motion, meteorology, pneumatics, optics, acoustics, hydrostatics, etc.

MATTER may be defined as that which fills space, and by matter is meant all that we can recognize by the senses, such as the earth, air, water, animals, and vegetables, the sun and other heavenly bodies.

ORGANIC MATTER means all things that have life. All other things are *inorganic*.

*Matter is indestructible*; it is destroyed only as regards its form, assuming new shapes.

WEIGHT is only a result of attraction. An article at the level of the sea weighs less at the top of a mountain.

Small bodies of matter are believed to be floating in space or circling around the sun. These bodies are called aerolites, and frequently fall to the earth when the latter comes near enough to attract them.

Aerolites *appear luminous* as they become heated, from the rapidity with which they rush through the atmosphere.

The *attraction to the earth* is weakest near the equator, and strongest near the poles. Pendulums are generally *lengthened* in advancing towards the poles.

WATER will rise to the level of the fountain from which it flows, and no higher.

THE SPECIFIC GRAVITY OF A BODY is its weight compared with that of water. A ship floats as high in a small dock as in the ocean.

WETTING is the adhesion of the liquid to the solid body.

CAPILLARY ATTRACTION is a particular effect of adhesion. Oil creeps up a wick. Water will creep up a lump of sugar. Water will creep up the foundations of a house, and water in a cup will rise a little way all around, as if anxious to cling to the vessel.

INERTIA is a tendency of bodies to remain in the condition in which they are placed, whether at rest or in motion. All persons in a moving carriage participate in the motion, exemplified when they attempt to leap from the carriage.

A body falling from a great height receives a fresh impulse from gravitation, and the descent becomes quicker as it falls.

The *lever* and *inclined plane* are the elementary mechanical powers.

The lever does not create power, it modifies it. The power is gained by the sacrifice of speed.

The *wedge* and *screw* are familiar examples of the inclined plane. The *wheel and axle* is a variety of the lever.

Machinery simplifies labor. The spade is a simple instrument, without which or some other implement we should have to dig with the hands.

*Mechanical combinations of substances* do not change the properties of the substances, while in chemical combinations the mixed substances undergo a thorough change of character.

## ELECTRICITY.

What is electricity? is a question which has existed from the earliest historic times; which has occupied the attention of every electrician, and which yet remains unanswered. The phenomenon obtained its name from the substance by which it was first observed, electron, or amber; but it is now recognized that every kind of matter is similarly affected; that friction is always attended with the production of electricity.

In a valuable treatise on the magnet, published by Dr. Gilbert in 1600, we have the first step towards a philosophical combination and generalization of the phenomenon, as then known, but it was not until the present century that general inquiry has been directed to the subject of electricity.

In 1752 Benjamin Franklin filled a Leyden jar from the clouds, thus proving the identity of lightning and electricity.

In 1820, Ørsted, by his discovery of the action of a current upon a magnet, laid the foundation of electro-magnetism.

Ohm and Faraday have done much to unite electric phenomena in one grand whole, while their discoveries more than ever tend to raise the question, What is the real nature of electricity?

Among the best elementary treatises of electricity in the English language are Fleming Jenkins' *Electricity and Magnetism* (1876), and Guthrie's *Magnetism and Electricity* (1876).

It has been found that electricity, like heat, pervades all material things, and that its velocity, as shown by Wheatstone, is 288,000 miles per second.



All metals are good conductors of electricity. Glass, wax, silk, wool, feathers, and dry air are bad conductors.

In the best electrical lamps the little horseshoe is now made of bamboo (Japanese), and this material has proved its superiority to its rival, paper, in many ways.

A well-made lamp is expected to burn 600 hours.

Platinum is the only metal which expands and contracts with heat at the same rate as glass. This keeps the joint, where the wires pass through the glass, always tight, so that no air can enter—a perfect vacuum being necessary.

Lightning is flashes of electricity from overcharged clouds.

Thunder is explosions of electricity in the atmosphere.

The aurora borealis consists of light streaks of electricity.

Galvinism is electricity developed by the action of certain chemical agents on plates of different metals, usually zinc and copper.

Electricity is successfully employed to work a twenty-two inch gun in a foundry at Castellamare, Italy.

## BOTANY.

BOTANY is the science which treats of the vegetable kingdom in all its phases.

The early botanists knew so few plants that any elaborate system of classification was unnecessary. For instance, Hippocrates, the father of medical science (400 or 500 B.C.), mentions only 234; Pliny (A.D. 79), 800; no greater number was known in the middle of the Sixteenth Century. Linnaeus at his death was not acquainted with more than 8551 species, of which 7728 were flowering plants.

At the present day, though the flora of Thibet, China, Corea, Africa, and other parts of the world are imperfectly explored, botanists have described 100,000 flowering plants, and 25,000 of other kinds.

PLANTS exist or live without consciousness.

The greater number of plants require sunlight.

THE LEAVES of plants absorb a certain amount of carbonic acid gas, a gas highly injurious to animal life.

PLANTS in daylight give off oxygen and moisture, maintaining the salubrity of the atmosphere.

SEEDS begin by swelling; then a part of the seed called the eye sends forth a double shoot, one part forming the root the other the stem.

Some seeds *retain their vitality* for thousands of years, but most seeds, if exposed to the air, lose their vitality after a few years.

Seeds are diffused by nature—by being carried by birds, and in various other ways.

LINNAEUS, A SWEDE, and Jussieu, a Frenchman, have classified plants into families.

ANNUAL PLANTS are those which grow for a season and then perish.

BIENNIALS, two years, and perennials a number of years.

ORCHIDS are a particular order of perennials which grow in tropical countries, and are introduced into hot houses, where they are suspended in moss or in blocks of wood.

EVERGREENS shed their oldest leaves in the spring and new ones are formed in fresh shoots.

DECIDUOUS TREES are those which shed their leaves on the approach of winter.

EXOGENOUS TREES are those which increase in bulk by concentric rings beneath the bark; the age of which trees can be determined by the number of concentric rings. The oak, ash, elm, larch, and others are examples.

ENDOGENOUS TREES are those which increase in bulk by growth in the centre and upward, of which the palm is an example.

EXOTICS are plants which have been introduced from foreign countries.

Indigenous plants are those which grow naturally in the country.

## ZOOLOGY.

ZOOLOGY is the science which treats of the animal kingdom.

THE ANIMAL CREATION includes all living creatures, from the most minute to the most highly organized; at the head is man.

No animal is insignificant, although many are troublesome; each is seen, when closely examined, to be an essential part of the plan of creation.

THE LOWER ANIMALS include all, except man.

IN COLD COUNTRIES the number of animals is limited, while in tropical regions the reverse is the case.

The classification of animals by CUVIER, a French naturalist, is the arrangement now adopted.

SPECIES OF ANIMALS is a term applied where there is a uniformity maintained through successive generations.

GREGARIOUS ANIMALS are those which live in flocks and herds.

OVIPAROUS ANIMALS are those produced *from* eggs.

VIVIPAROUS are those produced in a living state.

OVOVIPAROUS ANIMALS are those *within which* the eggs are hatched before the young are produced; the common lizard is an example.

DIGITIGRADE QUADRUPEDS are those which walk on their toes, as the dog or cat.

PLANTAGRADE QUADRUPEDS are those which walk on the sole of the foot, as the bear.

HIBERNATING ANIMALS are those which pass the winter in a dormant state, as the bat.

AMPHIBIOUS ANIMALS are those which can live either in water or on land, such as the frog.

PARASITIC ANIMALS are those which habitually live within or upon other animals.

IN ANIMAL as in VEGETABLE life, there is not, as was once supposed, spontaneous production.

CONDITIONS have a powerful effect on animal life, for example souring beer aids the principles of reproduction. Without the conditions, the germ of the animal would remain dormant.

ZOOPHYTES are named from their resemblance to growing plants, and which seem to form a connecting link between animal and vegetable life.

SPONGE is the frame work of the zoophytes, cleared of the living matter.

THE EYES OF INSECTS are usually much projected, and consist of a vast number of distinct lenses which enable them to see on all sides.

34,000 lenses, each possessing the power of an eye, have been counted in the eye of a butterfly.

MAMMALIA, OR SUCK-GIVING ANIMALS, are the highest kind of animals. Dolphins, Porpoises, Whales and Seals are marine mammalia.

The order RUMINANTIA includes the stag, camel, antelope, goat, sheep, cow, giraffe, and buffalo; all live on grass.

The elephant, rhinoceros, tapir, hog, horse, and ass compose the order of PACHYDERMATA, implying animals with thick skin, such as very ferocious wild animals.

The monkey, orang-outang, chimpanzee, and gorilla, animals approaching in figure to man, compose the order of QUADRUMANA, or *four-handed*.

MAN is assigned to the order bimana, or two-handed, in which class he stands alone.

## ETHNOLOGY.

ETHNOLOGY treats of the varieties or different races of men, their manners and characters.

There are usually said to be five varieties in the race of man, the CAUCASIAN, MONGOLIAN, MALAYAN, AMERICAN INDIAN, and the NEGRO.

The Caucasian variety is nearly white, and is the most improvable of all the races. The latter are supposed to have originated in and spread out from Caucasus in Asia.

The MONGOLIANS are so called from the Mongols, a people of Central Asia.



The MALAYANS are called from the peninsula of Malaya, in India.

To a certain extent, the color of the skin is an effect of circumstance, *exposure to the sun in hot climates* tending to darken the complexion; but the color in the negro race, from whatever cause, is not on the surface of the skin, but *seems a part of the natural complexion*.

### POTTERY—CERAMICS.

Under these terms, which are embraced in the single name "Ceramics," are included all manufactures of baked clay, from the earliest bricks and tiles to the most artistic products of the potter's art.

The potter's art and its products possess supreme historical interest, while in industrial utility, pottery is second to no other product of human labor.

The art of making pottery was certainly among the earliest developments of human industry.

Rude vessels of pottery belonging to the stone age of pre-historic times—before the use of any metal was understood—are not uncommon, and it is quite probable that the art was practised at a time when the mammoth was the inhabitant of Central Europe.

SUN-DRIED POTTERY was probably long in use before the art of kiln-baking the moulded clay was discovered.

*The introduction of the potter's wheel* marked an important era in the progress of the art. It is impossible to determine by whom this notable implement was first used; but it was in use among the Egyptians not less than 2500 years before the Christian era.

Latest of all the great improvements came the art of glazing and enamelling, or covering the porous body with a glassy coating of either a transparent or an opaque character.

The stages in this important advance are thus epitomized: The invention of glass or enamels, as old as the 18th dynasty, and enamelled objects as early as the 4th have been found in Egypt.

*The employment of copper*, to produce a brilliant blue-colored enamel, was very early used, both in Babylonia and Assyria; but the use of TIN for a white enamel anticipated by many centuries the rediscovery of that process in Europe in the Fifteenth Century.

This invention apparently remained for many centuries a secret among the Eastern nations only, enamelled terra-cotta and glass forming articles of commercial export from Egypt and Phoenicia to every part of the Mediterranean.

After the fall of the Roman Empire the art of enamelling terra-cotta disappeared among the Arab and Moorish races.

Innumerable fragments of glazed vases, fabricated by the Greeks and Romans, not only prove the early use of glazing, but

also exhibit in the present day many of the noblest efforts of the potter's art.

*The earliest appearances of ornamentation* on pottery consists merely of rude thumb marks and nail scratchings.

Artistic form in the higher sense is first found in the beautiful vases of the ancient Greeks, popularly known as Etruscan.

*The art of making porcelain* is undoubtedly a Chinese invention.

According to oriental records, porcelain was first made in China about the beginning of the Christian era, and for seventeen centuries porcelain continued to be an exclusively oriental product.

For a period of about one thousand years, corresponding to the so-called dark ages, the artistic manufacture of pottery was practically extinct in Europe.

Early in the Fourteenth Century Italian pottery, now well known as majolica, from having been originally made in the Island of Majorca, began to be manufactured. In the Sixteenth Century a peculiar variety of stone ware, or dense pottery, was made in Germany. In the same century the enamelled fayences of the famous Bernard Pelissy were produced in France. The true oriental porcelain, however, was not discovered till about 1715. Strenuous efforts were made to keep this discovery of Böttgers secret, but it soon spread. In Vienna the manufacture was begun in 1720, Berlin in 1751, and at Sèvres in 1759.

In Great Britain the first potter who deserves mention, on account of the artistic excellence of his productions, is JOSIAH WEDGEWOOD, born 1730. In his hands, British pottery attained an elegance of form, perfection of material, and beauty of ornamentation which neither before nor since have been rivalled.

The Wedgewood works are still continued at Etruria, Staffordshire, by the descendants of Josiah Wedgewood. Chinese porcelain of the Kang-he period, 1661-1672, with the ring mark is very highly prized. A vase of that period eight inches in height, offered at the "Morgan Sale" in N. Y. City, March, 1886, was purchased by Mr. Walters, from Baltimore, for the reported sum of \$18,000.

## ARCHITECTURE.

ARCHITECTURE ranks as one of the fine arts, and has been fitly described as the art of ornamental and ornamented construction.

The Architect, besides understanding the nature and properties of materials, *must understand the principles of design.*

Architecture, like sculpture, is of very ancient date, and consists of various kinds, such as civil, military, and ecclesiastical.

The Greeks improved on the knowledge of architecture which they acquired from the Assyrians and Egyptians. They divided it into three styles, Doric, Ionic, and Corinthian. Doric is the oldest, Corinthian the most ornamental.

Greek architecture was in perfection 650 to 300 B.C. Phidias, the designer of the Parthenon, at Athens, was the most noted of architects.

The ARCH is not found in any Grecian building, although employed by the Egyptians and Assyrians.

The Romans adopted the Greek models, with the Tuscan and Composite. Roman architecture flourished with great magnificence in the time of Augustus. They adopted the Arch and communicated it to Western Europe.

The Basilica, first used for Roman courts of justice, markets, etc., were generally transformed into churches after the introduction of Christianity.

The BYZANTINE, SARACENIC, GOTHIC, and RENAISSANCE styles of architecture followed the Greek and Roman. The church of St. Sophia, at Constantinople, and St. Mark's at Venice, are considered pure specimens of Byzantine architecture in the middle ages.

The SARACENIC ARCHITECTURE is represented by the Alhambra of the Moors in GRANADA, Spain.

GOthic ARCHITECTURE comprised various styles which prevailed in Western Europe during the middle ages, and in the Gothic was perfected the Cathedral in the shape of a cross.

The RENAISSANCE in architecture was a renewal down to the minutest details of the Roman, or Classical style. PALLADIO, 1518, *Italian*; INIGO JONES, 1600, and SIR CHRISTOPHER WREN, *English*, were all celebrated architects.

According to RUSKIN, the French not only invented Gothic architecture, but carried it to a perfection that no other nation has approached since.

## SCULPTURE.

In the highest sense SCULPTURE is the counterpart of painting.

The Egyptians are the first people who elevated sculpture almost to a pure art.

The oldest statues in existence are now believed to be those of Sheik RA-EM-KE, of SCHAFRA, and of his wife or sister, discovered at Sakkarab, by Mariette Bey, who ascribes them to the third dynasty (B.C. 4449). They are more natural and expressive than later Egyptian sculptures. Two are of limestone, one is diorite, and the other cedarwood coated with flesh-tinted stucco. The eyeballs are pieces of opaque quartz, having bits of rock crystal to represent the pupils.

The ASSYRIANS failed in the treatment of the human figure, but surpassed in hunting scenes, etc. In GREECE sculpture attained its utmost perfection, the Greeks excelling in this art all other nations, either ancient or modern.

PHIDIAS was employed by PERICLES (440 B.C.) to embellish



Athens. His greatest works were the sculptures of the Parthenon, the statue of Minerva, and the Olympian Jupiter at Elis.

The ROMANS *carried off* most of the great Greek sculptures to Rome, and fond as they were of art, they produced no great artist.

*The four great Tuscan masters* were Della Quercia, Brunelleschi, Ghiberti and Donatello.

Sculpture died out in Italy about the end of the Sixteenth Century, and the names of Bernini, Algardi and Canova mark the chief attempts at revival. Canova was the master of Thorwalsden. In France alone the Renaissance spirit survived, and the fame of the school has been maintained by PUGET, GIRARDON, HOUDON, etc.

Strictly speaking sculpture had no existence in England till the appearance of FLAXMAN.

America has been singularly prolific of gifted sculptors, among whom are GREENOUGH, HIRAM POWERS, CRAWFORD, HENRY BROWN PALMER, THOMAS BALL and QUINCY WARD.

The APOLLO BELVIDERE, a celebrated Greek statue of Apollo, lost for ages, was discovered in 1503 A.D. and placed in the Belvidere gallery of the Vatican, Rome.

The statue of VENUS DE MEDICIS, by an unknown Greek sculptor, was found in the ruins of the Emperor Hadrian's villa, transferred to the gardens of the Medici, and then (1695) to Florence.

The Elgin Marbles, now in the British Museum, are a collection of ancient sculptures from Athens.

## MUSIC.

MUSIC of one kind or another has existed from the earliest times. In Asiatic countries it has made scarcely any progress for centuries. The Hindus at an early date developed a mathematical and scientific knowledge of acoustics. Among the ancient Egyptians certain families were set apart as musicians. The Hebrews had trumpets, shawms (a wind instrument resembling a modern clarionet), harps and cymbals.

The early hymns of the Christian church, borrowed from Hebrew and pagan sources, form the basis of our modern music.

Pope Gregory gave music a vast impetus. The Gregorian chant consisted of certain choral melodies introduced toward the end of the Sixth Century.

The *Dies Iræ* (Days of Wrath) is a celebrated Latin hymn of mediæval composition, and its author is unknown.

In the Ninth Century harmonies were introduced, national melodies sprung up, and the era of minstrels began.

GUIDO, a Benedictine monk, conceived (in 1022) the idea of *representing notes on horizontal lines*.

ITALIAN OPERA seems to date from the production of Peri's *Eurydice* at Florence in 1600, and is a musical drama.

ROSSINI, BELLINI, DONIZETTI and VERDI, *Italians*, were at the head of Italian opera.

Church music was perfected by BACH. The *oratorio* was almost created by HANDEL.

Opera under Mozart and Glöck attained its highest development. Orchestral music became beautiful under Haydn, sublime under Beethoven; nor have the musical geniuses of our own day been few. The Nineteenth Century can claim MENDELSSOHN, WEBER, MEYERBEER, AUBER, SCHUBERT, SPOHR, SCHUMANN, CHOPIN, BELLINI, VERDI, WALLACE, STERNDALE BENNETT and GOUNOD, and the *great* WAGNER, as its sons.

Instrumental performances have been carried to a higher pitch than ever by PAGANINI, THALBERG, JOACHIM and VON BULOW. The tide of progress of music has not yet receded, and a glorious future is promised.

### PAINTING.

BY PAINTING we mean *the art of representing scenes, objects, figures, and incidents, real or imaginary, by the use of colors, on flat or curved surfaces.*

Of the origin of the art it is in vain to speak, but it is probably as old as language itself. Pictures have been discovered on the walls of tombs and temples of Abousambul, which are considerably upwards of 3000 years old, and the colors of which retain their original freshness.

*The earliest painted portrait* on record is that of AMASIS, King of Egypt, which was presented to the Greeks of Cyrene 600 years B.C.

*The art of painting* appears to have reached Greece through Egypt and Asia Minor. Its historic age commences after the defeat of Xerxes. Few Greek paintings now remain.

Before the Christian era, Rome was full of Greek painters, and the history of painting in Rome is divided into three periods. First, from the Roman conquest of Greece to the time of Augustus; the second reaches on to the latter part of the Third Century; and the third comprised the time when Rome was drained to decorate the churches and palaces of New Rome (Constantinople).

*The Byzantine artists* of Constantinople preserved the art of painting during the middle ages.

Cimabue (1270), and Giotto, his pupil (1300), were each celebrated early Italian painters.

*Oil painting* is said to have been invented by Van Eyck (1410), but it is claimed that pictures had been done in oil over 500 years previous.

*Schools of painting* were styles of treating subjects adopted in different cities and countries, such as Roman, Florentine, Bolognese, Venetian, French, Spanish, Flemish, Dutch and English schools.

The three greatest painters of the Italian school were Leonardo da Vinci, Michael Angelo, and Raphael, all of the Sixteenth Century. Angelo was a great sculptor and architect.

ALBERT DURER was the father of the German school, and one of the greatest of artists.

Nicholas Poussin and Charles le Brun were leaders of the French school. Rubens (1577) was at the head of the Flemish school. Rembrandt (1606) of the Dutch school. Velasquez (1599) and Murillo (1618) of the Spanish school. Sir Peter Lely (1617), Hogarth (1697), Reynolds (1723), were great English painters.

"Pre-Raphaelite" pictures are noted for attention to minutiae.

"Genre" are those pictures which tell a story.

"Gallery" pictures are those of a large size.

### MISCELLANY.

PAPER is said to have been invented about the year 1000 of the Christian era; but the Chinese were acquainted with the art in very remote times.

PRINTING was invented by John Guttenberg, at Mayence, in Germany, 1437 A.D.

WOOD ENGRAVING began to be practiced in Germany and other countries about 1400. It was first used for stamping or printing playing cards and Scriptural subjects.

THE FIRST BIBLE ever printed, called the "Bible for the poor," was composed of pictures from wood engravings.

PLAYING CARDS of the present kind became known in Italy in 1379.

COVERING BOOKS in a superior manner was in use long before the art of printing was discovered. Beautiful and elaborate binding existed as early as the Eleventh Century.

IN THE MIDDLE AGES ordinary news was disseminated by wandering minstrels, pilgrims, traders and mendicants. Sometimes years elapsed before the people of one country knew what had taken place in another country.

BILLS OF EXCHANGE were invented by the Jews in the Twelfth Century, and first employed in England in 1307.

BOOKS were originally written on finely prepared skins of parchment.

The word VOLUME comes from the roll books (writings wound on a roll) of the Romans, which were called "Volumina."

The word STATIONER has its origin in the fact that when books multiplied by the invention of printing, they were sold by book-



sellers who became known as Stationarii or Stationers, from having been stationed at the gates of Universities and other places.

THE VEDAS are the most ancient and the most authoritative Hindu books on religious subjects; they are in Sanscrit.

THE KORAN is the sacred book of the Mohammedans, composed in Arabic by Mohammed.

The English language is composed of 42,000 words, 13,000 of which are Anglo-Saxon, 29,000 French and Latin.

BUNYAN and the authorized version of the Bible employ more Anglo-Saxon words than any other works.

WILLIAM CAXTON introduced the art of printing in England about 1471. He printed the first book, which was called the "Game of Chess."

The earliest English newspapers belonged to the reign of James I. They first appeared (1619) in the form of quarto pamphlets. They did not embrace general intelligence until the reign of Charles I.

LITHOGRAPHY, the art of printing from a design on stone, was invented by Aloys Senefelder, a Munich musician, toward the close of the last century.

THE MAGAZINES, *monthly periodicals*, of which the *Gentleman's Magazine* was the first, began in 1731.

*Encyclopædias* in 1728, by Ephraim Chambers.

*Reviews* began 1749. The *Edinburgh Review*, 1802.

*Talmud* is the name given to the book which comprehends the Jewish law.

The *Old Testament* was originally written in Hebrew and partly in Chaldee; the new Testament in Greek.

The *Septuagint* was a Greek version of the original Hebrew Old Testament executed 280 years before Christ, said by Josephus to be the work of seventy-two translators.

*Vulgate* signifies the translation of the Scriptures into Latin 380 A.D.

The first English version of the whole Bible was executed in 1553, by Myles Coverdale; the present version of the Bible was prepared between 1607-1610, at the request of James I. of England.

*Confucius* was a Chinese sage and moralist, born about 550 B.C. He inculcated honesty, benevolence, and other virtues.

The seven wise men of Greece were *Periander*, *Pitacus*, *Thales*, *Solon*, *Bias*, *Chilon* and *Cleobulus*.

CHRIST was crucified at Jerusalem in the reign of Tiberius, 33 A.D.

The Temple of Jerusalem, built by Solomon about the Tenth Century before Christ, was reconstructed by Esdras, in the time of Cyrus, and destroyed by Titus, 70 A.D. It was situated on Mount Moriah, and overlooked Jerusalem.

THE MOSQUE OF OMAR was built by command of Omar, a

Mohammedan Caliph who conquered Palestine. It was erected on the site of Solomon's Temple, 637 A.D.

*The Colosseum at Rome* covered a space of 60,000 square feet and seated 87,000 spectators.

THE GREAT WALL OF CHINA, 1400 miles long and from 15 to 30 feet high, was built about 200 years before Christ.

THE GREAT CANAL OF CHINA is 700 miles long, and from the number of flood gates that regulate it, the bridges that span it, etc., constitute it one of the greatest national works in the world.

THE SEVEN WONDERS *of the world* were the Pyramids of Egypt, the walls and hanging gardens of Babylon, *the Pharos at Alexandria*, Egypt: *the Temple of Diana at Ephesus*; *the statue of Jupiter by Phidias*, composed of ivory and gold; *the sepulchre of Mausolus*, 353 B.C., and *the Colossus of Rhodes*.

*The Pharos of Alexandria* was a celebrated lighthouse on the Island of Pharos, near Alexandria, Egypt, erected 300 B.C.

*The six Great Powers* of the world are Russia, Germany, Austria, France, Great Britain and the United States of America.

In the open ocean the greatest height of the waves is attained between Cape Horn and the Cape of Good Hope, where a severe gale produces billows whose crest is forty feet higher than the hollow or trough, with a breadth of a quarter of a mile. In the open Atlantic twenty-five feet is the maximum height.

It is rather remarkable that the greatest depression of the ocean-bed is pretty much the same as the greatest elevation of the earth.

The light of the sun penetrates the waters of the clear seas some 200 yards. Objects have been seen by the naked eye at a depth of 150 feet.

The five largest libraries of the world, in their order, are the National Library of France, at Paris, 2,000,000 volumes; the library of the British Museum, London, 1,150,000 volumes; the Imperial Library of Russia, at St. Petersburg, 1,100,000 volumes; the Royal Public Library at Dresden, 900,000, and the Royal Library at Berlin, 700,000 volumes. In America, the five largest are the Boston Public Library, (about) 555,000 volumes; Library of Congress, at Washington, 350,000 volumes; Yale College Library, 190,000; Astor Library, New York, 180,000; Mercantile Library, New York, 180,000.

*Artificial Sponge*, made of cotton rendered absorbent and treated with antiseptics, has been invented in England. A piece the size of a walnut has absorbed water until it reaches the size of a coconut. It is so cheap that it need be used but once.

In 1513 Balboa discovered the Pacific by crossing the isthmus, and in 1520 Magellan, a Portuguese, passed through Magellan Straits and crossed that ocean, circumnavigating the globe for the first time.

A notable and late feat in navigation is the voyage of the *Vega*, a Swedish vessel, by the Northeast Passage round Northern Asia.

*The sea passage* to India was discovered by Vasco da Gama in 1497, altering the whole current of traffic between Europe and India.

*The Earthquake at Lisbon, Portugal*, took place November 1st, 1755, when in eight minutes over 50,000 inhabitants were swallowed up.

*The Sicilian vespers* was the name given to the massacre of the French in Sicily. The massacre began in Palermo on Easter Monday, 1282, and 8,000 Frenchmen were slaughtered.

THE CIRCULATION of *the blood* was established by William Harvey in 1628.

THE PROTECTIVE POWER OF VACCINATION was discovered by Dr. Jenner of England in 1792.

GUNPOWDER is generally thought to have been invented by Roger Bacon, an English Monk, in 1270. It was first used by the English at the battle of Cressy in 1346.

THE MARINER'S COMPASS was invented or first made known in Europe in 1160 by Marco Polo, a Venetian.

CHEAP LITERATURE began in 1832.

THE LAW OF COPYRIGHT dates from the reign of Queen Anne.

THE FIRST UNIVERSITY was established at Paris about 1200 A.D.

THE ROSETTA STONE found at Rosetta, Egypt, bore inscriptions in three varieties of character: ancient hieroglyphics, the popular characters of the country, and the Greek. Champollion, an eminent French savant, discovered that the inscriptions were repetitions of each other, and his knowledge of the Greek afforded the interpretation.

*The Stone, Bronze, and Iron Ages* are said by archæologists to be periods when weapons were made of stone, copper and iron.

MASONIC GUILDS of the middle ages were fraternities of practical architects and masons, who reared great ecclesiastical structures; they moved from country to country, fostered by the Church.

*Patron Saints* were: for England, St. George; Scotland, St. Andrew; Ireland, St. Patrick; Wales, St. David; France, St. Denis; Paris, St. Geneviève; Naples, St. Januarius; Edinburgh, St. Giles.

*Saints' Days* were: St. George's, 23d of April; Saint Andrew's, 30th of November; St. Patrick's, 17th of March; St. David's, 1st of March.

*The Order of the Garter*, 1344, originated as follows: The Countess of Salisbury, in dancing with Edward III., lost her garter. The king picked it up and tied it around his own leg, exclaiming,



“Honi soit qui maly pense.” This order of knighthood is the highest of the kind.

GYPSIES were thought to have come from Egypt, and thus in England were called Gypsies. They are now believed to have originated in India.

LLOYDS is an establishment in London where the insurance of vessels at sea is undertaken by capitalists called underwriters. It takes its name from one Lloyd who kept a coffee house in London in 1810.

PECUNIARY (the word) is from the Latin word *pecunia*, money. The root of the word was *pecus*, cattle, cattle having constituted the wealth of the early Romans.

MONEY is from the temple of Juno Moneta, in which money was coined by the Romans. Mint has the same root.

STERLING. The word sterling is a corruption of Easterlings, who were invited to come to England in the reign of Henry III. to refine silver.

CASH is from the French word *caisse*, a chest or box where money was kept.

GUINEA took its name from the coast of Guinea in Africa, whence the gold for it was originally brought.

CONSOLS is a term applied to a particular kind of government stock in England, different borrowings of the government *consolidated*.

THE POTATO was introduced into Europe from Chili, in South America, about 1700.

*The first person that successfully propelled* a vessel by a screw set at the stern was Col. John Stevens of Hoboken, N. J.

*The Telephone* was invented by Prof. Gray, who filed a caveat in the Patent Office, Washington, D. C., March 14, 1876; also by Prof. Bell on the same day.

*The first insurance company* set up in Great Britain was organized in 1696, and now exists under the name of the Hand-in-Hand Insurance Company.

*The sablier* (sand-glass) by some authorities is said to have been invented in France shortly before the accession of Charlemagne by the man who reinvented the blowing of glass after the secret had been lost for years. He was a monk of Chartres named Luitprand, and the sand-glass he made was the exact prototype of all those that have been made since. It consisted of two pear-shaped receptacles joined by their slender ends. When the sand had all run from one to the other, the lower glass was turned uppermost and kept in that position till empty. Charlemagne caused a monstrous sablier to be made with the horal divisions marked on the outside by thin lines of red paint. This was the first hour-glass. It required to be turned over only once in twelve hours, and it kept time with as much precision as the best of lever

clocks. Other authorities state that hour-glasses were invented at Alexandria about the middle of the Third Century. Many people still consider the glass the best timekeeper ever invented. Early in the Sixteenth Century they were introduced into churches to regulate the length of the sermons, very elaborate stands being sometimes erected for them.

*Buddha*, a recluse of India, about 600 B.C., was the founder of a religion known as Buddhism. The religion is atheistic, and consists mainly of a system of morals, its aim being to reach such purity of life as to entitle its followers to utter annihilation. Until this is reached, they believe they pass at death into various individuals and animals in succession, called "transmigration of souls."

*The Religious Sects* of the world are composed of about 1,251,000,000 persons, of which number 500,000,000 are Buddhists, 152,000,000 Roman Catholics, 75,000,000 Greek Church, 100,000,000 other Christians (included among the latter are many who are called Christians because they live in Christianized countries), 160,000,000 Hindus, 155,000,000 Mohammedans, 7,000,000 Jews, 1,200,000 Sikhs, 150,000 Parsees, 100,000,000 all other religions.

The *First Church historian* was EUSEBIUS, 261-340 A.D., who wrote a history of the church "from the very origin of the dispensation of our Lord" to the accession of Constantine, 324 A.D. He himself seems to have relied upon something like inspiration, for he acknowledges that his materials were next to none. In the preface to his work he says: "Looking up with prayer to God as our guide, we trust indeed that we shall have the power of Christ as our aid, *though we are utterly unable to find the bare vestiges of those who may have travelled the way before us.*" From Eusebius and the writers that followed him to 594 A.D., the legion of later writers must all derive their materials.

EASTER EGGS, or *Pasch eggs*, are symbolical of creation, or the re creation, of spring. The practice of presenting eggs to our friends at Easter is Persian, and bears allusion to the mundane egg for which Ormuzd and Ahriman were to contend until the consummation of all things; it prevailed not only with the Persians, but also among the Jews, Egyptians and Hindus. Christians adopted the custom to symbolize the resurrection, and they color the eggs red in allusion to the blood of their redemption. There was a tradition that the world was "hatched," or created, at Eastertide.

PRE-ADAMITE.—Peyreri maintained that only the Jews are descended from Adam, and that the *Gentiles are descended from a race of men existing before Adam.* As the book of Genesis is the history of the Jews only, it does not concern itself with the Gentile race.

PUBLICANS of the New Testament were the provincial under-

lings of the Magister, or master collector, who resided at Rome. The taxes were farmed by a contractor called the Manceps. This Manceps divided his contract into different societies; each society had a Magister, under whom were a number of underlings called Publicani, or servants of the State.

WEATHER COCK.—By a Papal enactment made in the middle of the Ninth Century, the figure of a cock was set up on every church steeple as the emblem of St. Peter.

WEeping BRIDES.—A notion prevailed in England that it augured ill for a matrimonial alliance if the bride did not weep profusely at the wedding. As no witch could shed more than three tears, and those from her left eye only, a copious flood of tears gave assurance to the husband that the lady had not “plighted her troth” to Satan, and was no witch.

THE HANGING GARDENS OF BABYLON were four acres of garden raised on a base supported by pillars, and towering in terraces one above another 300 feet in height. At a distance they looked like a vast pyramid covered with trees. This mound was constructed by Nebuchadnezzar to gratify his wife, Amytis, who felt weary of the flat plains of Babylon, and longed for something to remind her of her native Medean hills.

THE SEVEN CHURCHES OF ASIA are: (1) *Ephesos*, founded by St. Paul, 57; in a ruinous state in the time of Justinian, 527. (2) *Smyrna*; still an important seaport; Polycarp was its first bishop; he died 175. (3) *Pergamos*, renowned for its library. (4) *Thyatira*, now called Ak-hissar (the White Castle). (5) *Sardis*, now a small village called Sart. (6) *Philadelphia*, now called Allah Sehr (city of God), a miserable town. (7) *Laodicea*, now a deserted place called Eske-hisson (the Old Castle).

SHAMROCK is the symbol of Ireland, because it was selected by St. Patrick to prove to the Irish the doctrine of the Trinity. According to the elder Pliny, no serpent will touch this plant.

TABLEAUX VIVANTS.—Representations of statuary groups by living persons were invented by Madame Genlis while she had charge of the children of the Duc d'Orleans.

UNCLE.—*Gone to my Uncle's*. Uncle is a pun on the Latin word *Uncus*, a hook. Pawnbrokers employed a hook to lift articles pawned before spouts were adopted. “Gone to the Uncus” is exactly tantamount to the phrase “Up the Spout.”

LIBERTY means balance of power (Latin: *libra*, a balance).

GOthic ARCHITECTURE has nothing to do with the Goths, but is a term of contempt bestowed by the architects of the Renaissance period on Mediæval architecture, which they termed Gothic, or clumsy; fit for barbarians.

KNIGHT means simply a boy or servant. Those who served the feudal kings bore arms, and persons admitted to this privilege



were the king's knights. As this distinction was limited to men of family, the word became a title of honor next to the nobility.

LEAF.—Before the invention of paper, one of the substances employed for writing was the leaves of certain plants; the reverse and obverse pages of a book are still called leaves; and the double page of a ledger is termed a “folio,” from folium (a leaf).

LAMPS, with horn sides, are said to have been the invention of Alfred the Great. London streets were first lighted with oil-lamps in 1681, and with gas-lamps 1814.

THE GOLDEN PALACE OF NERO consisted of three galleries on three rows of marble pillars, each row a mile in length. The roof and walls were gold (gilt), inlaid with mother of pearl. One of the banqueting rooms, made of glass, revolved with the sun and distilled perfume on the guests.

HOURIS are the large, black-eyed damsels of Paradise, possessed of perpetual youth and beauty, whose virginity is renewed at pleasure. Every believer will have seventy-two of these houris in Paradise, according to “The Koran.”

ISPARETTA.—Supreme god of the people of Malabar. She converted herself into an egg, from which was hatched heaven and earth, and all that they contain. She has three eyes and eight hands.

BROTHER JONATHAN.—In the revolutionary war Washington, being in great want of supplies for the army, and having unbounded confidence in his friend Jonathan Trumbull, Governor of Connecticut, said we must consult Brother Jonathan. Brother Jonathan was consulted often by the liberator, and was accepted as the national name of the Americans as a people.

Cattle were first carried to America by Columbus in his second voyage, 1493. Swine brought into the present territory of the United States by De Soto, 1538. First slave labor within the present territory of the United States at the founding of St. Augustine, 1565. Tobacco carried to England from America by Raleigh, 1586. First cattle and swine brought to Massachusetts, 1624. Hops first introduced in the United State, 1628. First horses in Massachusetts, 1629–30. First apples picked in the United States in Boston, 1639. Sugar cane brought into Louisiana, 1751. First improved cattle brought into the United States, 1783. South Carolina and Philadelphia agricultural societies founded 1784. First cotton (eight bales) sent from the United States to England and seized by custom house on the ground that the United States must not produce so much, 1784. First recorded United States thresher-patent, 1791. Thence to 1810 were granted in the United States thirty patents for reapers; from 1810 to 1835, two hundred and forty more; and many since. Whitney's cotton-gin invented 1793.

First cast-iron plough-patent issued to Newbold of New Jersey,

1797. First agricultural exhibition in the United States at Georgetown, D. C., May 10, 1810. First useful mowing-machine (Manning's) patented in the United States, 1831. First useful reaper-patents in the United States, Schnebley's and Hussey's, both of Maryland, 1833. Guano began to come into use about 1840. Yale College Agricultural Department established 1852. World's Fair, New York, promotes use of agricultural machinery, 1853. Great trial of threshing, reaping and mowing machines in France, the American machines gaining a complete victory. The United States Government Agricultural Department established by an act of Congress May 15, 1862. First great cotton fair held at Atlanta, Ga., 1881.







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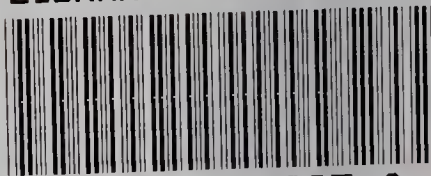
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